Agenda Item 5

City of Paso Robles
Planning Commission Agenda Report

From: Susan DeCarli, City Planner

Subject: 2018 Bicycle and Pedestrian Master Plan Adoption – Recommendation to City Council
A Comprehensive Update to the 2009 Bikeway Master Plan (Bicycle Transportation Plan)

Date: December 12, 2017

Facts

1. The City's first Bikeway Master Plan was adopted in 1993. The plan has been updated a couple times since then, most recently in 2009. Bicycle and Pedestrian Master Plans are guiding policy documents that establish local priorities for bicycle and pedestrian improvements.

2. The 2011 Circulation Element includes policies to develop a "Pedestrian" Master Plan and to integrate "complete streets" for all modes of transportation, including cars, transit, bicycles, and pedestrians for all levels of mobility.

3. The Draft 2018 Bicycle and Pedestrian Master Plan (BPMP) addresses both bicycle and pedestrian needs, with a focus on connecting missing links in the networks for commuters, school age children, and for recreational purposes. See Attachment 1, Draft BPMP.

4. The 2018 BPMP also places a strong focus on bike and pedestrian safety and education. Safe facilities and proper training programs would encourage users to enjoy the benefits of bicycling and walking to their destinations.

5. Recent economic studies, including the local 2017 Economic Forecast, demonstrate the importance of community place-making that showcase community assets and resources for continued diverse economic development (e.g. great places to build new housing and business development), and that provide added experiences, such as outdoor activities (e.g. walking paths and bicycle facilities) because they provide expanded offerings that attract visitors.

6. Communities that see shifts in how people travel (from cars to bicycling and walking) have a direct correlation with investments in well-connected facilities that are safe. Additionally, traffic congestion, especially around school zones, may decrease with well-connected bike routes and sidewalks.

7. Development of the proposed BPMP included a well-rounded, inclusive public outreach process. One of the goals of the outreach process was to obtain input from a wide range of residents, businesses and organizations, not just self-selected bike advocates. The program was successful in this effort.

8. Bicycling and walking for daily needs is good for public health, especially school-aged children who statistics demonstrate are increasingly becoming overweight due to lack of exercise and suffer associated risks of diabetes. Encouraging children to ride bikes and walk could help with this epidemic.

9. The draft Bicycle and Pedestrian Master Plan is consistent with the City's 2013 Climate Action Plan (CAP) which includes implementation measures to that support bicycle and pedestrian facility improvements.

10. An additional focus of the BPMP effort was to scrutinize the 2009 Bike Plan bike route map and list of projects that are funded through the Transportation Impact Fee (TIF) program. The TIF

program identifies improvements that are funded through development fees. The goal was to sort through the planned improvements and identify the highest priority projects that meet multiple benefits (where possible). This effort resulted in a reduced number of projects on the TIF list. A cost estimate for all projects was prepared by North Coast Engineering, which will be used as the basis for collecting fees for bike and pedestrian improvements. It should be noted that although TIF projects are funded through development, that development is only charged their share of cost for specific improvements. The balance of funds for some improvements, such as the more expensive off-street, Class I, multi-purpose paths and bridges, will be funded partially through grants and other sources.

11. Agencies that have current bicycle and pedestrian plans are at a competitive advantage for grant funding for improvement projects, including sidewalk and curb ramp projects, bike/road improvements, and other facilities because it demonstrates commitment at a policy level and shows community support.

Options

1. Adopt Draft Resolution A, provided in Attachment 1 recommending the City Council approve the 2018 Bicycle and Pedestrian Master Plan.
2. Recommend approval with modifications.
3. Refer the Draft BPMP back to staff for additional analysis.

Analysis and Conclusions

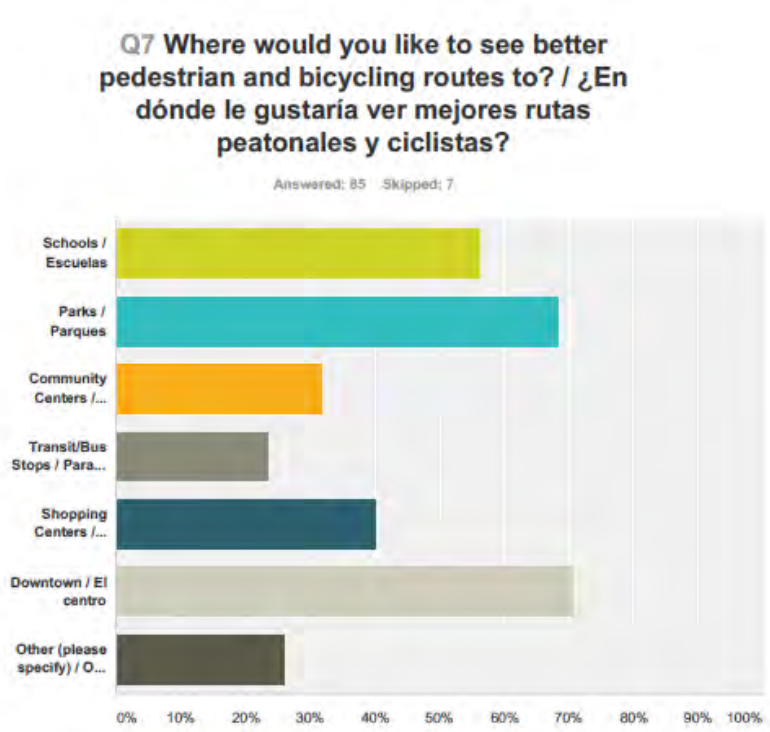
The updated BPMP incorporates the highest priority improvement projects. It is important to have a plan that demonstrates where to direct resources for improvements. These projects are funded through the TIF program, grants and other sources. It is important to have a current program and cost estimates so that the City is collecting the right fees for the right projects, and to put the City at a competitive advantage when seeking grant funds.

Economic development of housing, businesses and tourism is supported by providing amenities for people to enjoy active experiences, including walking paths and bike trails. School-age children could enjoy health benefits from having well connected, safe routes to get to and from school.

The BPMP update process included several opportunities for public engagement. These include hosting six stakeholder meetings, with a 12-member stakeholder committee that included local residents, hotel and wine industry representatives, local businesses, the Paso Robles School District, representatives from the Safe Routes to School Program, funding agencies, and local cyclists with firsthand knowledge of the City's bike network.

The City and its consultants from KTU&A and North Coast Engineering hosted three public workshops that included table exercises among other tools to identify the highest priority walking and bike routes.

The City also hosted an online and in-person survey that received 138 responses from a wide range of interests.



The plan was reviewed by the City Parks and Recreation Advisory Committee (PRAC). The PRAC supported made suggestions, and with those suggestions incorporated supported the plan moving forward. City staff and consultants also appeared on the local KPRL radio show to help share information and solicit input from the public.

The BPMP includes several policies and action items directing efforts to improve bicycle and pedestrian facilities, work with local education and safety partners, and explore funding options. The plan includes the following key goals, which are followed up with policies to support specific actions:

Goal 1 – Develop a comprehensive system of bicycle and pedestrian facilities to provide a safe, fun, convenient, healthy and environmentally-friendly mode of travel throughout the City for ages and abilities.

Goal 2 – Develop bicycle and pedestrian facilities that are accessible to commercial and employment centers, neighborhoods, parks and schools to provide a viable alternative for transportation to reduce vehicle miles traveled and traffic congestion.

Goal 3 – Develop bicycle and walking safety program to encourage non-motorized travel within the City of Paso Robles.

Goal 4 – Develop bicycle and pedestrian facilities that will meet both commuter and recreation needs, including bicycle support facilities once they meet their destinations.

Goal 5 – Increase public awareness of the benefits of bicycling and walking and develop programs to encourage residents to ride bikes and walk to work, school, and for recreation.

Goal 6 – Coordinate City bicycle and pedestrian improvement plans with interagency transportation plans and funding programs.

Goal 7 – Promote inclusive and sustainable economic growth and tourism through the City by developing bicycle and pedestrian facilities and improving existing infrastructure.

The plan also includes information on the different types of bicycle and pedestrian facilities that would be appropriate in Paso Robles. As noted above, the plan was prepared with input from the public on the locations and types of improvements by analyzing the existing plan and identifying gaps in the system. The update was also formulated by looking at development patterns, future growth areas, and natural attractors such as schools, parks and commercial areas. The consultants also utilized a computer model that helped prioritize improvement locations based on these factors. All of the existing and proposed routes are combined into project maps that can be referred to when evaluating development or public improvement projects to ensure the plan is followed as approved. The plan project list is also accompanied by cost estimates for the improvement projects as well as a listing of potential funding sources.

The following measures from the City's 2013 Climate Action Plan support this plan update.

- Measure TL-1: Bicycle Network. Continue to expand and City's bicycle network and infrastructure.
  Implementation Actions:
  - TL-1.1: Continue to pursue public and private funding to expand and link the city's bicycle network in accordance with the General Plan and Bicycle Plan.
  - TL-1.2: Collaborate with the San Luis Obispo Bicycle Coalition to assist with event promotions and publications to increase awareness and ridership during Bike Month.
  - TL-1.3: Continue to enforce mandatory California Green Building Standards Code bicycle parking standards for non-residential development.

- Measure TL-2: Continue to improve and expand the City's pedestrian network.
  Implementation Actions:
  - TL-1.1: Continue to pursue public and private funding to expand and link the city's bicycle network in accordance with the General Plan and Bicycle Plan.

- TL-1.2: Collaborate with the San Luis Obispo Bicycle Coalition to assist with event promotions and publications to increase awareness and ridership during Bike Month.

- TL-1.3: Continue to enforce mandatory California Green Building Standards Code bicycle parking standards for non-residential development.

CEQA

Adoption of a Bicycle Transportation Plan is Statutorily Exempt from CEQA review under Public Resources Code § 21080.20.

Fiscal Impact

The Bicycle and Pedestrian Master Plan will not result in direct fiscal impacts to the City's General Fund. Future improvements will be the focus of individual project analysis and associated costs and funding sources will be identified as opportunities become available.

Recommendation

Make a recommendation to City Council to adopt Draft Resolution A, provided in Attachment 1 recommending approval of the 2018 Bicycle and Pedestrian Master Plan (Bicycle Transportation Plan).

Attachments

1. Draft Resolution A: Recommendation to City Council
   a. Exhibit A - Draft Bicycle and Pedestrian Master Plan
   b. Exhibit B - Route Map
   c. Exhibit C - Appendices
2. Legal Notice

Attachment 1

RESOLUTION PC 17-xxx

A RESOLUTION OF THE PLANNING COMMISSION
OF THE CITY OF PASO ROBLES
RECOMMENDING TO THE CITY COUNCIL APPROVAL OF THE
2018 BICYCLE AND PEDESTRIAN MASTER PLAN (BICYCLE TRANSPORTATION PLAN)

WHEREAS, the City's first Bikeway Master Plan was adopted in 1993. The plan has been updated a couple times since then, most recently in 2009. Bicycle and Pedestrian Master Plans are guiding policy documents that establish local priorities for bicycle and pedestrian improvements; and

WHEREAS, the 2011 Circulation Element includes policies to develop a "Pedestrian" Master Plan and to integrate "complete streets" for all modes of transportation, including cars, transit, bicycles, and pedestrians for all levels of mobility; and

WHEREAS, the Draft 2018 Bicycle and Pedestrian Master Plan (BPMP) addresses both bicycle and pedestrian needs, with a focus on connecting missing links in the networks for commuters, school age children, and for recreational purposes. See Exhibit A, Draft Bicycle and Pedestrian Master Plan; and

WHEREAS, the 2018 BPMP also places a strong focus on bike and pedestrian safety and education. Safe facilities and proper training programs would encourage users to enjoy the benefits of bicycling and walking to their destinations; and

WHEREAS, recent economic studies, including the local 2017 Economic Forecast, demonstrate the importance of community place-making that showcase community assets and resources for continued diverse economic development (e.g. great places to build new housing and business development), and that provide added experiences, such as outdoor activities (e.g. walking paths and bicycle facilities) because they provide expanded offerings that attract visitors; and

WHEREAS, communities that see shifts in how people travel (from cars to bicycling and walking) have a direct correlation with investments in well-connected facilities that are safe. Additionally, traffic congestion, especially around school zones, may decrease with well-connected bike routes and sidewalks; and

WHEREAS, development of the proposed BPMP included a well-rounded, inclusive public outreach process. One of the goals of the outreach process was to obtain input from a wide range of residents, businesses and organizations, not just self-selected bike advocates. The program was successful in this effort; and

WHEREAS, bicycling and walking for daily needs is good for public health, especially school-aged children who statistics demonstrate are increasingly becoming overweight due to lack of exercise and suffer associated risks of diabetes. Encouraging children to ride bikes and walk could help with this epidemic; and

WHEREAS, the following measures from the City's 2013 Climate Action Plan support this plan update.

- Measure TL-1: Bicycle Network. Continue to expand and City's bicycle network and infrastructure. Implementation Actions:
  - TL-1.1: Continue to pursue public and private funding to expand and link the city's bicycle network in accordance with the General Plan and Bicycle Plan.
  - TL-1.2: Collaborate with the San Luis Obispo Bicycle Coalition to assist with event promotions and publications to increase awareness and ridership during Bike Month.

- TL-1.3: Continue to enforce mandatory California Green Building Standards Code bicycle parking standards for non-residential development.

- Measure TL-2: Continue to improve and expand the City's pedestrian network.
  Implementation Actions:
  - TL-1.1: Continue to pursue public and private funding to expand and link the city's bicycle network in accordance with the General Plan and Bicycle Plan.
  - TL-1.2: Collaborate with the San Luis Obispo Bicycle Coalition to assist with event promotions and publications to increase awareness and ridership during Bike Month.
  - TL-1.3: Continue to enforce mandatory California Green Building Standards Code bicycle parking standards for non-residential development.

WHEREAS, an additional focus of the BPMP effort was to scrutinize the 2009 Bike Plan bike route map and list of projects that are funded through the Transportation Impact Fee (TIF) program. The TIF program identifies improvements that are funded through development fees. The goal was to sort through the planned improvements and identify the highest priority projects that meet multiple benefits (where possible). This effort resulted in a reduced number of projects on the TIF list. A cost estimate for all projects was prepared by North Coast Engineering, which will be used as the basis for collecting fees for bike and pedestrian improvements. It should be noted that although TIF projects are funded through development, that development is only charged their share of cost for specific improvements. The balance of funds for some improvements, such as the more expensive off-street, Class I, multi-purpose paths and bridges, will be funded partially through grants and other sources; and

WHEREAS, agencies that have current bicycle and pedestrian plans are at a competitive advantage for grant funding for improvement projects, including sidewalk and curb ramp projects, bike/road improvements, and other facilities because it demonstrates commitment at a policy level and shows community support; and

NOW, THEREFORE, , THE PLANNING COMMISSION OF THE CITY OF EL PASO DE ROBLES DOES HEREBY RESOLVE AS FOLLOWS.

Section 1. The above recitals are true and correct and incorporated herein by reference.

Section 2. Findings. The Planning Commission makes the following findings:

1. Bicycle and Pedestrian Master Plans are guiding policy documents that establish local priorities for bicycle and pedestrian improvements.
2. The 2011 Circulation Element includes policies to develop a "Pedestrian" Master Plan and to integrate "complete streets" for all modes of transportation, including cars, transit, bicycles, and pedestrians for all levels of mobility.
3. The Draft 2018 Bicycle and Pedestrian Master Plan (BPMP) addresses both bicycle and pedestrian needs, with a focus on connecting missing links in the networks for commuters, school age children, and for recreational purposes. See Attachment 1, Draft BPMP.
4. The 2018 BPMP also places a strong focus on bike and pedestrian safety and education. Safe facilities and proper training programs would encourage users to enjoy the benefits of bicycling and walking to their destinations.
5. Communities that see shifts in how people travel (from cars to bicycling and walking) have a direct correlation with investments in well-connected facilities that are safe. Additionally, traffic

congestion, especially around school zones, may decrease with well-connected bike routes and sidewalks.

6. Development of the proposed BPMP included a well-rounded, inclusive public outreach process. One of the goals of the outreach process was to obtain input from a wide range of residents, businesses and organizations, not just self-selected bike advocates. The program was successful in this effort.
7. Bicycling and walking for daily needs is good for public health, especially school-aged children who statistics demonstrate are increasingly becoming overweight due to lack of exercise and suffer associated risks of diabetes. Encouraging children to ride bikes and walk could help with this epidemic.
8. The draft Bicycle and Pedestrian Master Plan is consistent with the City's 2013 Climate Action Plan (CAP), which includes implementation measures to that support bicycle and pedestrian facility improvements.
9. Agencies that have current bicycle and pedestrian plans are at a competitive advantage for grant funding for improvement projects, including sidewalk and curb ramp projects, bike/road improvements, and other facilities because it demonstrates commitment at a policy level and shows community support.

Section 3. CEQA. The Bicycle and Pedestrian Master Plan (Bicycle Transportation Plan) is statutorily exempt from CEQA under Public Resources Code § 21080.20.

Section 4. Recommendation. Planning Commission of the City of El Paso de Robles does hereby recommend approval of the 2017 Bicycle and Pedestrian Master Plan to the City Council as attached hereto as Exhibit A, B and C.

PASSED AND ADOPTED THIS 12th day of December 2017 by the following Roll Call Vote:

AYES:
NOES:
ABSENT:
ABSTAIN:

_____
John Donaldson, Chairperson

ATTEST:

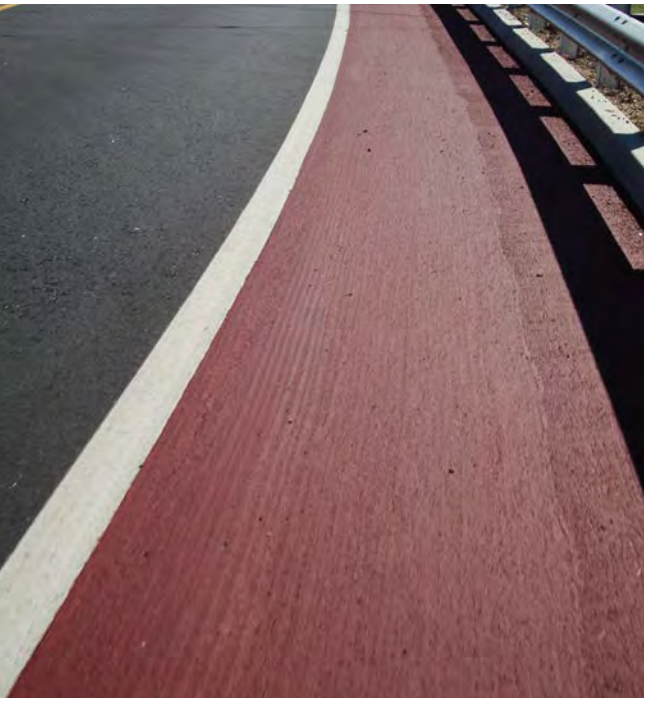
_____
Warren Frace, Secretary of the Planning Commission

Exhibit A - Draft 2017 Bicycle and Pedestrian Master Plan
Exhibit B - Bicycle and Pedestrian Master Plan Route Map
Exhibit C - Bicycle and Pedestrian Master Plan Appendices

Agenda Item 5

CITY OF PASO ROBLES

Bicycle & Pedestrian Master Plan



ADMINISTRATIVE DRAFT
DECEMBER 2017

Acknowledgments

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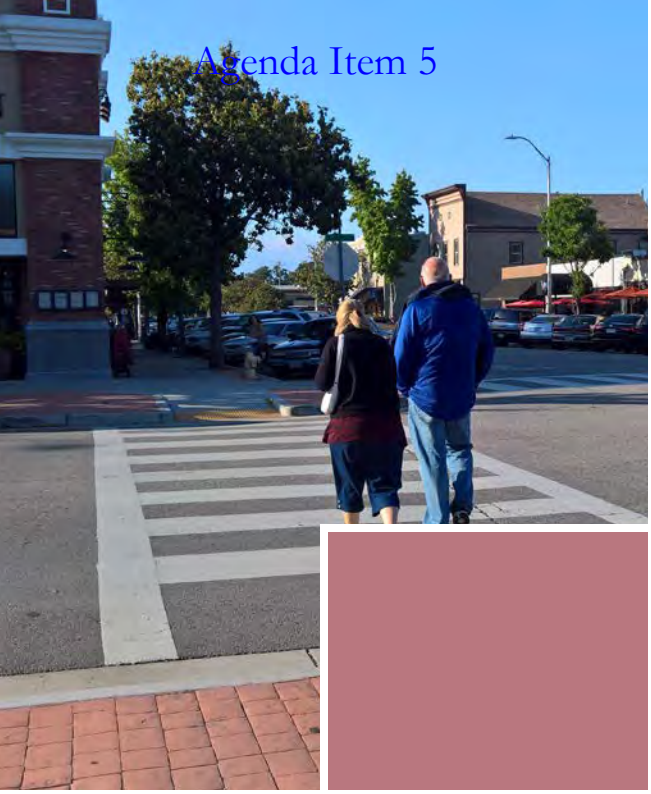


1 Introduction

Paso Robles Vision: Moving to the Future

It is a goal of the City of El Paso de Robles to continue to be a bike and walk-friendly City. To meet this goal, the City will:

Establish Better Bicycle and Pedestrian Connections

- Well connected, easy to access system of bikeways and walkways that are safe and comfortable for bicycle travel .
- Easy-to-ride, off the street system of protected trails that provide quick connections across town with views into the picturesque natural areas along river and creek corridors and canyons.
- Bikeways and walkways that will extend to all neighborhoods, safely linking bicyclists and pedestrians to schools, shopping areas and other commonly traveled areas.
- Bikeways and walkways that will connect commercial and industrial employment areas so commuters will have alternative choices of travel to work.
- Bikeways and walkways that will help the City reduce vehicle miles traveled and traffic congestion and air pollution, and help residents become healthier.
- Create multi-modal facilities that emphasize mobility of people by bicycles, walking and transit rather than only by cars.
- Support bicycling and walking as a recreational activity for residents and tourists.

Provide Bike and Pedestrian Safety Education

- Develop an ongoing program for commuter and recreational bicyclists to learn safe riding skills and rules for riding with in-town traffic and on rural roads.
- Develop a bike and pedestrian safety outreach program designed to teach children and adults basic rider safety skills, simple bike maintenance, the benefits of bike riding for exercise, and the “bike rules of the road” and crossing streets safely.

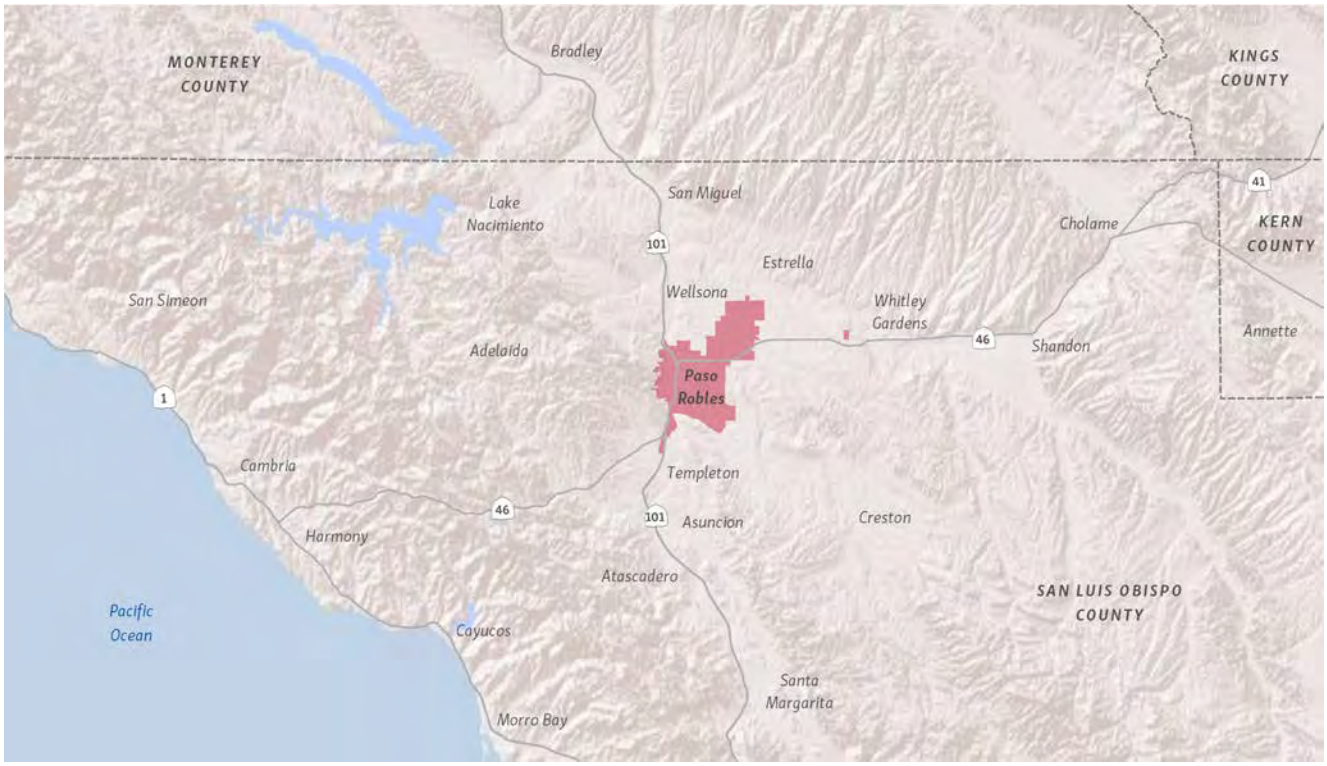
Integrate Bicycling and Walking into Schools

- Partner with the City, Paso Robles Public Schools, and SLOCOG to develop an integrated “Safe Routes to School” (SRTS) program to make bicycle facilities easy to access for students to ride to school and reduce vehicle miles traveled.
- Pursue grant opportunities to install bicycle and pedestrian facilities specifically intended for making riding bikes and walking to school a safe option .

Increase Bicycle-Related Tourism

- Make downtown Paso Robles a bike and walk-friendly business district.
- Work with businesses, hotels and services to develop a reward and incentive program for attracting bike-riding customers.
- Develop materials on multi-use trails and amenities.
- Develop multi-use trails along the Salinas River and other appropriate areas to become an attraction for tourists.
- Development of a new regional on-street and off-street multi-use trail system among North County towns and out to the local wineries.
- Promote bike and walking related events such as the Amgen Tour of California, marathons and other cycling related activities to provide exciting, fun activities to attract visitors and bicycling and running enthusiasts into the Paso Robles community.

Figure 1-1: Paso Robles Location Map



Introduction

The City of Paso Robles has become aware of the growing interest in bicycle riding through local planning efforts such as new specific plans, trail planning, and regional bike programs.

The Paso Robles Bicycle and Pedestrian Master Plan is a comprehensive plan that addresses the needs of both recreational and commuter bicyclists and pedestrians of all ages and abilities. The plan includes goals that establish what the City would like to achieve, policies to provide the guidance on how to achieve the goals, and actions to direct the City's efforts. A prioritized list of bicycle and pedestrian projects is provided that will direct future upgrades to the City bicycle and pedestrian facilities, and funding strategies to achieve these goals.

The principles of the League of American Bicyclists are embedded into the goals, policies and actions in the Plan. These principles are focused on the "Six Es" - Engineering, Education, Encouragement, Enforcement, Evaluation and Equity of bicycle and pedestrian transportation throughout the city.

This Plan is intended to provide the measures to help make commuting by foot or by bike accessible and comfortable. An increase in walking and biking facilities will reduce air pollution and vehicle miles traveled by automobiles, and provide for more recreational opportunities.

Purpose of the Plan

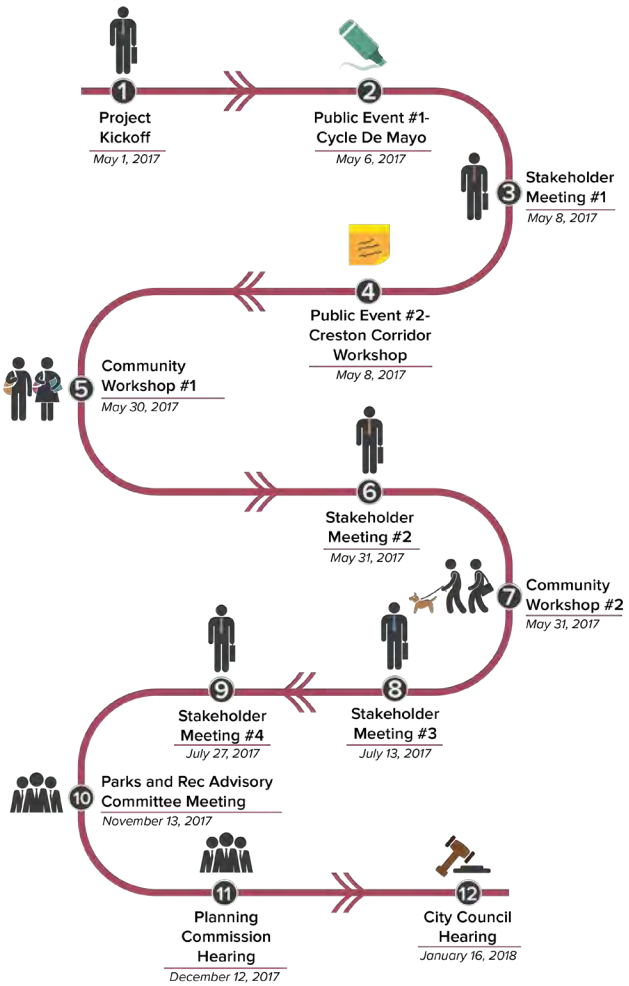
- Provide a master plan for bicycle and pedestrian transportation throughout the City of Paso Robles, including upgrading and expanding existing bicycle facilities to meet the needs of bicyclists of all ages and skill levels, as well as identifying sidewalk gaps and pedestrian deficiencies.
- Develop programs that emphasize pedestrian and bicycle mobility, instead of relying on driving, by providing accessible, well connected bicycle and pedestrian facilities throughout the City.
- Develop a bicycle and pedestrian safety program to encourage bicycling and walking for commuting and recreation.
- Identify and prioritize short-, mid- and long-range bicycle and pedestrian improvement priorities based on facility need and financial feasibility.
- Identify the costs of bicycle and pedestrian improvement projects as well as funding sources to implement them.
- Develop bicycle and pedestrian education programs to promote walking and bicycling as a healthy transportation alternative.

Community Outreach

The City provided several opportunities for community involvement in the development of this Bicycle and Pedestrian Master Plan. The City worked with the voluntary Bicycle and Pedestrian Stakeholders Committee (BPSC) to help inform and provide feedback throughout the bike planning process. The BPSC included representatives from organizations throughout the community, including the Paso Robles School District, REC Foundation, Bike SLO County, San Luis Obispo Council of Governments (SLOCOG), Wine Country Alliance and local bicycle businesses and bicycling enthusiasts. Meetings were held at strategic times over a six month period during planning process to consult on outreach events, project and planning review.

The project team prepared and circulated a bicycle and pedestrian master plan survey (hard copy and online) and an online map that included responses from 138 participants. Responses were helpful in gauging support for bicycle and pedestrian amenities that will help community members access various destinations such as schools, parks, attractions, retail, open space and Downtown Paso Robles. In addition, the City participated at the Cyclo de Mayo event to promote the project workshops and hand out surveys. Two workshops were conducted in the Spring of 2017 in Downtown Paso Robles and Uptown Park to gather feedback and develop priority projects.

Figure 1-2: Public Outreach Process Diagram



Public Outreach Process

The planning process included several public outreach efforts designed to gather information from a broad range of residents, stakeholders, and city staff through a series of public events, stakeholder meetings, and surveys.

Figure 4-1 outlines the project's outreach process.

Public Events

City staff participated in three public events throughout the month of May. A booth was reserved at each of these events and provided people project fact sheets, surveys, and opportunities to share feedback on table maps and exhibits.

Community Workshops

Two community workshops were scheduled on different days and locations to provide residents option to participate in the planning process. The locations and times were carefully selected to reach a wider audience and provide residents flexibility for sharing their thoughts.

Community Workshop #1

The first community workshop took place at the Council Chambers on May 30, 2017 between 6:00 – 8:00 pm. Community members and stakeholders were invited to provide valuable feedback on all bicycle and pedestrians related topics. This workshop was organized as a traditional workshop that included a formal presentation followed by table exercises.

The workshop began with a presentation and informed people the project's scope, vision, existing conditions, and expectations of the outreach process. The presentation also included an overview of bicycle and pedestrian facilities as well as environmental, health, and economic-related infographics. Two table mapping exercises followed the presentation. Exercise #1 asked people to comment on opportunities and constraints. One person per table was selected to summarize their discussion and report back to the entire audience. Exercise #2 asked people to select their Top 5 pedestrian and bicycle projects. This exercise allowed each of the five groups to discuss which projects would have the largest positive impact in their city. Once again, each table reported back to the entire audience.

The first community workshop was successful and insightful. Over 30 people attended and shared what would make walking and biking safer and more enjoyable. Existing conditions exhibits and surveys were also available for review.

Community Workshop #1 Table Exercise

Community Workshop #2

The second workshop took place the following day at Uptown Family Park on May 31, 2017 between 5:30 – 7:00 pm. This workshop was organized as an outdoor, open-house style workshop that provided people the opportunity to review the comments collected the previous day, as well as share additional information. A map that highlighted all the projects discussed previously was available for public comments. Existing conditions exhibits and surveys were also available.

A Paso Robles Daily News reporter attended the outdoor workshop and announced that she would include project information for the next scheduled article.

Although the second workshop had less public participation, the team still received valuable feedback.

An additional outreach event was part of a local elementary school program on school leadership, where 30 students came to City Hall on May 30, 2017, and participated in table top exercises, and provided young, student input into the plan, including filling out surveys.

Community Workshop #2 Exhibit Participation

Stakeholder Meeting

Stakeholder Meetings

A stakeholder group was created at the beginning of the planning process to gather information on opportunities and constraints, advice on how to conduct the community workshops, review preliminary recommendations, and comment on the draft document. The stakeholder group included representatives from various local and regional organizations such as SLOCOG, Bike SLO County, Paso Bike Tours, and the Wine Country Alliance.

The group convened three times: at the beginning of the planning process, between the two community workshops, and to review the potential project list and draft document.

A complete list of the stakeholder group is available in Appendix B.

Survey and Online Map

An online survey and map were developed as additional resources to collect feedback from the community. A paper copy of the survey was distributed at all public events and community workshops. The online survey and map were closed on June 9, 2017.

Over 150 people completed the survey and provided comments. The results from these two resources were analyzed and used for the development of the potential project list. They also provided the City with a current view of people's opinions, concerns and desires for pedestrian and bicycle facilities.

The following six figures depict results from the survey. It was enlightening to find out that over 60 percent of respondents walk more than once a week, and that over 60 percent of respondents bike more than once a week. However, over 80 percent of respondents drive to work, school, or to the park. In addition, when asked what would make walking and biking better in Paso Robles, respondents answered continuous sidewalks and paths separated from the roadway respectively. These results communicate the importance of improving the walking and biking infrastructure in the City.

The complete list of survey results are located in Appendix B.

How Often Do You Walk in Paso Robles?

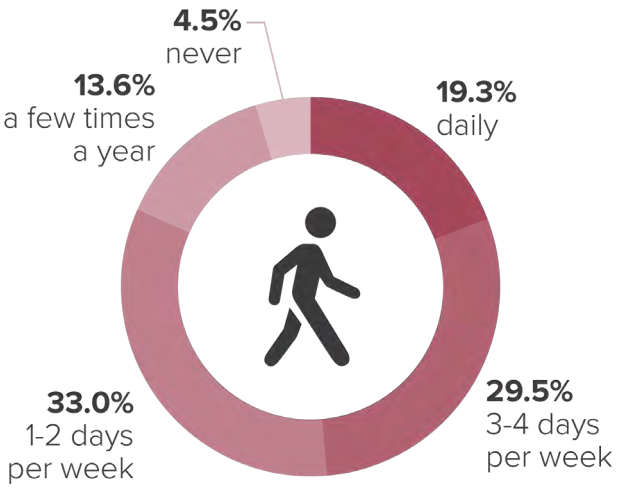


Figure 1-3: Survey Question #8 Results

How Often Do You Bike in Paso Robles?

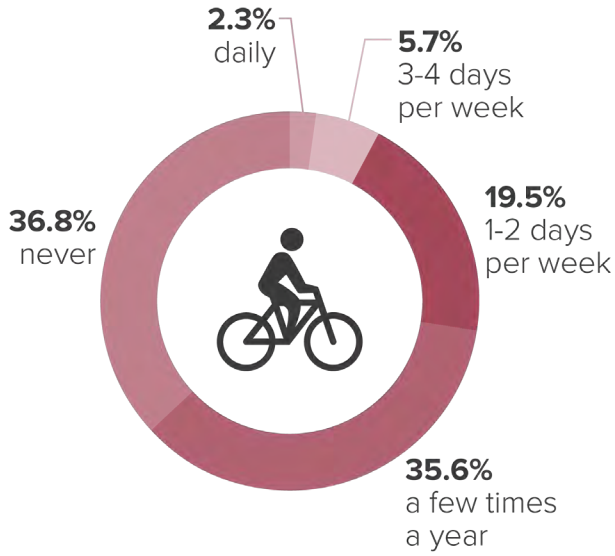


Figure 1-4: Survey Question #9 Results

How Do You Get to Work or School?

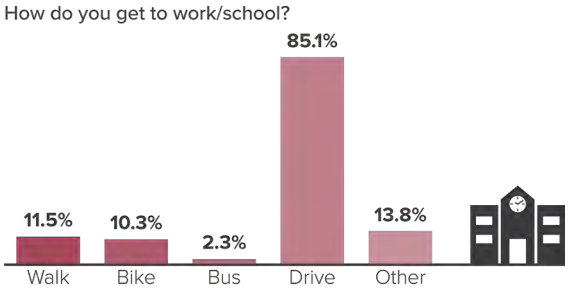


Figure 1-5: Survey Question #5 Results

How Do You Get to the Park?

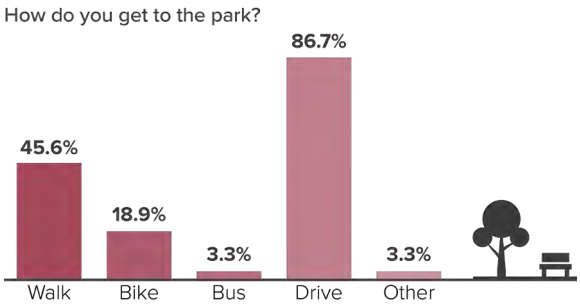


Figure 1-6: Survey Question #6 Results

Consistency with Other Documents

The Bicycle and Pedestrian Master Plan is consistent with and supports implementation of the following City planning documents:

2003 General Plan Land Use, Parks and Recreation and Open Space Elements

The Bicycle and Pedestrian Master Plan implements General Plan policies to provide connected neighborhoods and districts so that alternative modes of transportation, such as bicycling and walking, are a viable alternative for transportation. This plan encourages reducing vehicle miles traveled, which would support a reduction in traffic congestion and air pollution. The Bicycle and Pedestrian Master Plan also encourages recreational opportunities within and between open space areas and parks and schools and between communities.

2011 Circulation Element

This Circulation Element (CE) provides a guiding framework for this Bicycle and Pedestrian Master Plan. The CE includes policies to reflect the need to improve bicycle and pedestrian infrastructure throughout the City, while making efficient use of existing transportation facilities and implementing sustainable planning principles. For example, there are action items that support bicycle and pedestrian connections through the City, especially to key destinations. Guiding principles as they relate to bicycle and pedestrian improvements are the basis for the policies and action items in this Bicycle and Pedestrian Master Plan.

2009 Bicycle Master Plan

The 2009 plan is the City's most recent Bicycle Master Plan and lays the foundation for this Bicycle and Pedestrian Master Plan. The plan's purpose is to provide a master plan for bicycle transportation throughout the City, including upgrading and expanding existing bicycle facilities to meet the needs of cyclists of all ages and skill levels. The plan also developed goals, policies, and programs that emphasize bicycle mobility and well connected bikeways throughout the City. Plan sections include identifying and prioritizing short-, mid- and, long-range bicycle improvement priorities based on facility need and financial feasibility.

Economic Strategy

The Plan supports strategies for community distinctiveness and amenities that help make Paso Robles a "livable" community such as providing the means to minimize the use of cars.

SLOCOG Salinas River Trail Conceptual Master Plan

The Salinas River Corridor Plan includes multi-use and bicycle trails for recreational use, as well as providing connections from the east side of the City to Downtown Paso Robles. The plan addresses the development of the Salinas River Trail (SRT) along a 35 mile section between the communities of San Miguel and Santa Margarita. The trail travels primarily through agricultural areas and the region's gently rolling terrain and light traffic, which make it a popular recreational bicycling venue for local riders. The local weather and scenic nature of the area also make it a popular area for hiking, equestrian use, and walking or running. Through Paso Robles, it becomes an important north-south connection as it bisects the more urban Downtown to the west and suburban housing to the east.

Uptown/Town Center Specific Plan

The Bicycle and Pedestrian Master Plan complements the draft Uptown/Town Center Specific Plan by incorporating consistent, integrated bike paths throughout the west side of the City to help make bicycling a viable transportation option.

City Of Paso Robles Pedestrian Safety Assessment

The City of Paso Robles enlisted the Technology Transfer Program of the Institute of Transportation Studies at University of California, Berkeley to conduct a Pedestrian Safety Assessment (PSA) study. Pedestrian safety experts conducted the PSA field visit for City of Paso Robles in February 2011 and prepared a report with objectives to improve pedestrian safety and to enhance walkability and accessibility for all pedestrians in Paso Robles.

This safety assessment strove to accommodate both existing and future pedestrian demand, with efforts including:

- Developing the Downtown Specific Plan, which includes Uptown and the Town Center
- Installing curb bulb-outs at intersections that reduce pedestrian crossing distances and increases sight lines between motorists and pedestrians
- Applying traffic impact fees to pedestrian and bicyclist improvements
- Filling in sidewalk gaps, upon request

The PSA focused on identifying opportunities that could build on these existing efforts and offering ideas for potential enhancements.

In addition to the aforementioned documents, the following projects and studies improve bicycle and pedestrian safety in Paso Robles and encourage the use of non-motorized transportation in the area.

City Projects and Studies

- 13th Street Streetscape
- Creston Road Corridor
- Spring Street Green Infrastructure Concept: 24th to 26th Street
- Crosswalk on South River Road at Serenade Drive

The Plan is also consistent with the following regional plans and programs:

- San Luis Obispo County Clean Air Plan
- San Luis Obispo County Bikeways Plan
- 2014 Regional Transportation Plan (SLOCOG)
- 2050 Community Blueprint Plan
- SLOCOG Routes of Regional Significance
- SLOCOG Safe Routes to School Inventory Project

Bicycling and Walking Benefits

Numerous economic, environmental, and health benefits are attributed to bicycling and walking, especially as a substitute for driving a vehicle. This section summarizes benefits from research by the Pedestrian and Bicycle Information Center (PBIC).

Tourism

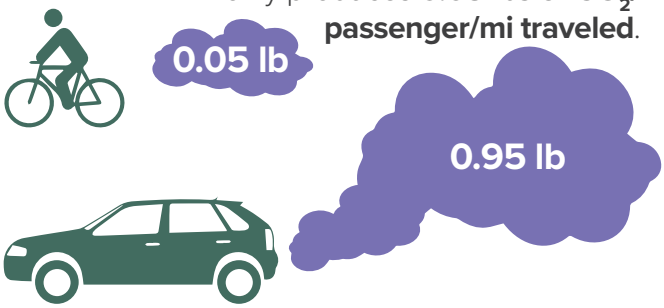
Tourism is one of the largest industries in the United States, generating millions of jobs and billions of dollars each year. Bicycle tourism, in particular, has become an emerging sector in the tourism economy and culture. According to the 2016 Outdoor Recreation Economy report, Americans spend $97 billion on bicycling and skateboarding activities each year.

Visiting cyclists spend around **$115** per person per day

Environmental Benefits

Increased bicycling reduces fossil fuel emissions. In California, 40 percent of carbon dioxide (CO_2) emissions are produced by the transportation sector. The Environmental Protection Agency (EPA) found that the average vehicle emits 0.95 pounds of CO_2 per mile, meaning that almost 10 pounds of carbon dioxide emissions could be avoided each day if an individual with a five mile (each way) commute switched from driving to an active transportation mode like bicycling.

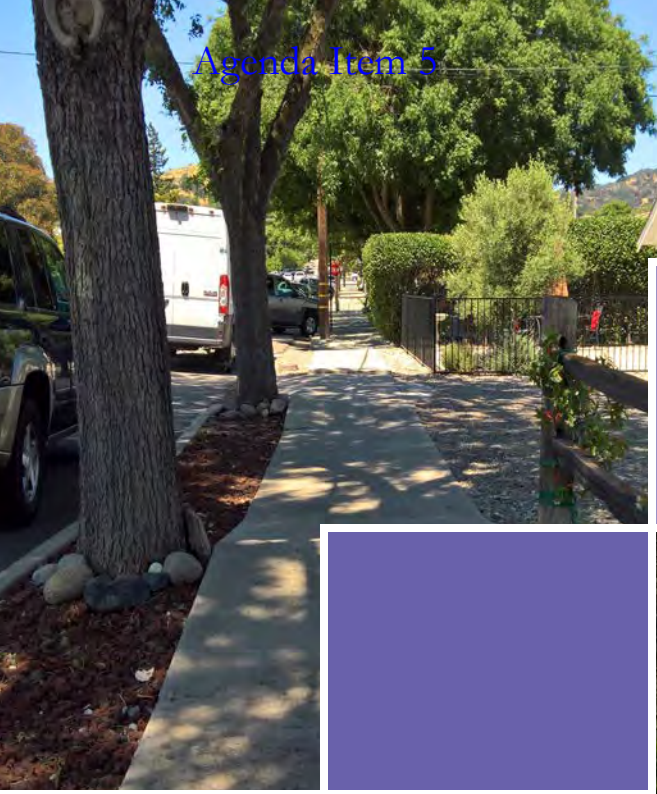
Vehicles produce approximately 0.95 lbs of CO_2/passenger/mi traveled of carbon emissions. Bicycling only produces **0.05 lbs of CO_2/ passenger/mi traveled**.

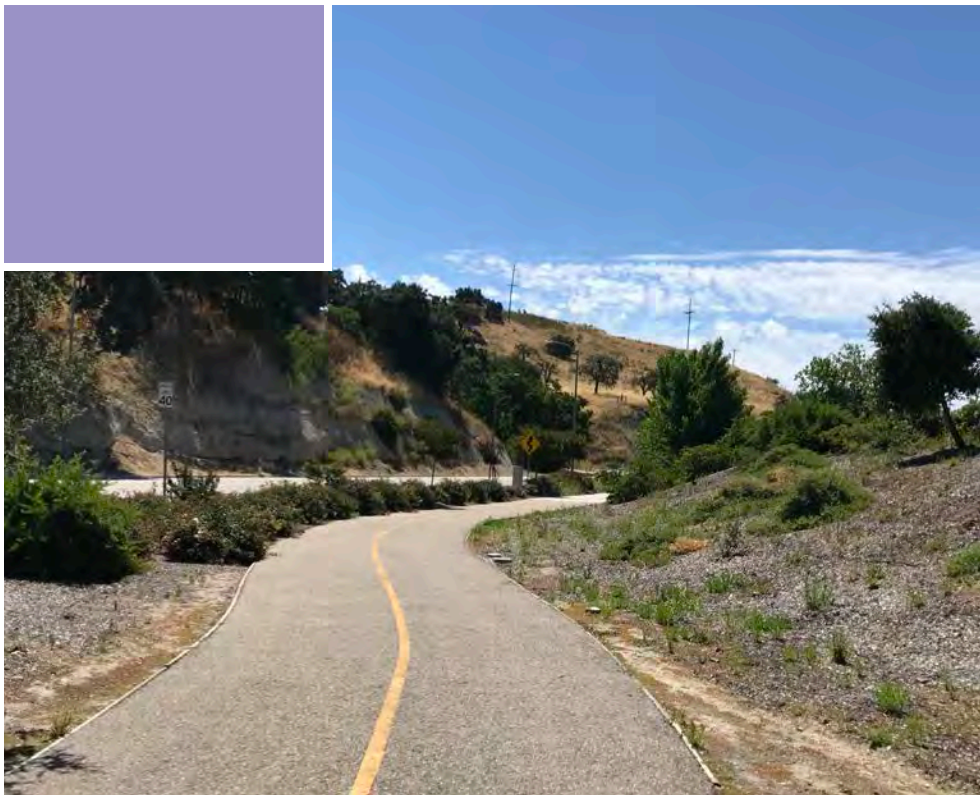


Health Benefits

In addition to the universal public health benefits, such as improved air quality, bicycling has the potential to positively impact personal health. A significant percentage of Americans are overweight or obese and recent projections indicate that 42 percent of the population will be obese by 2030. To combat this trend and prevent a variety of diseases and their associated societal costs, the Centers for Disease Control and Prevention (CDC) suggest 30 minutes of moderate intensity physical activity five days per week minimum. Other health benefits associated with moderate activity, such as bicycling, include improved strength and stamina through better heart and lung function.

Transportation Activity for Weight Loss: For even a slow bike rider weighing 180 lbs, **245 calories** can be burned in less than **30 minutes** of travel.





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Goals, Policies, and Actions

Goals

Goal 1 – Develop a comprehensive system of bicycle and pedestrian facilities to provide a safe, fun, convenient, healthy and environmentally-friendly mode of travel throughout the City for ages and abilities.

Goal 2 – Develop bicycle and pedestrian facilities that are accessible to commercial and employment centers, neighborhoods, parks and schools to provide a viable alternative for transportation to reduce vehicle miles traveled and traffic congestion.

Goal 3 – Develop bicycle and walking safety program to encourage non-motorized travel within the City of Paso Robles.

Goal 4 – Develop bicycle and pedestrian facilities that will meet both commuter and recreation needs, including bicycle support facilities once they meet their destinations.

Goal 5 – Increase public awareness of the benefits of bicycling and walking and develop programs to encourage residents to ride bikes and walk to work, school, and for recreation.

Goal 6 – Coordinate City bicycle and pedestrian improvement plans with inter-agency transportation plans and funding programs.

Goal 7 – Promote inclusive and sustainable economic growth and tourism through the City by developing bicycle and pedestrian facilities and improving existing infrastructure.

Goal 1: Complete Bicycle and Pedestrian Network

Policies

- The City shall actively forecast future bicycle travel needs for bicyclists of all ages and abilities and as funding becomes available, plan, upgrade, and expand bike routes and bike facilities to meet those needs.
- The City shall design new and rehabilitated streets consistent with the "Complete Streets" program of the City's General Plan Circulation Element, state and national trends in addressing a variety of transportation needs including vehicle, transit, bicycle and pedestrian modes.
- The City shall develop an integrated multi-modal public transportation system that has an emphasis on the ability to use bicycles as a viable means for commuting so that commuters are not reliant on use of automobiles.
- The City shall, as funds become available, develop bicycle and pedestrian connections within the City limits that integrate with the SLO County Bikeways Plan, SLO County Bicycle Advisory Committee's Significant Regional Corridors and the Salinas River Trail Master Plan to provide regional bike and trail connections to San Miguel, Creston, and Templeton.

Actions

- Improve bikeway safety by ensuring facilities are designed to reduce conflicts with vehicles; and maintain clean, smooth bike riding surfaces throughout the City.
- Incorporate "Complete Streets" design standards into the City's Street Standards and Specifications for new and rehabilitated street improvements.
- Assure all new streets and street maintenance projects include "complete streets" improvements for vehicle, transit, bicycle and pedestrian modes.
- Ensure all new city buses include bike racks, and that the transportation center provides a sufficient amount of bike racks, bike lockers, restroom facilities, and drinking fountains.
- Collaborate with SLOCOG and SLO County on planning, design, funding and implementation of significant regional corridors.
- Develop a series of connected and safe bicycle and pedestrian loop systems that connects to local and regional destinations for residents and tourists.

Goal 2: Bicycle and Pedestrian Facilities

Policies

- The City shall provide safe bicycle and pedestrian routes between major destinations such as, retail, entertainment and services, employment centers, neighborhoods, transit, schools and parks - consistent with this plan, SLO County Bikeways Plan and the City's Circulation Element.
- The City shall create bicycle and pedestrian facilities that are focused on connecting to the scenic qualities of Paso Robles such as the Salinas River and Downtown.
- The City should ensure the City's pavement management system maintains safe, clean bikeways, sidewalks, crosswalks and other bicycle and pedestrian infrastructure facilities.
- Where bikeways and pedestrian trails are to be located within waterway edges, the Salinas River corridor or other natural areas, the City shall ensure that bridge structures utilize designs that minimize disturbance or damage to natural habitat areas. Bikeways and trails in these areas should also minimize grading to the greatest extent possible.
- The City shall evaluate the latest bicycle and pedestrian street, waterway and rail crossing enhancements when planning street improvements.
- The City will require ADA accessible sidewalks and curb ramps for new developments and redevelopment projects within and around the project site.
- The City will develop a set of evaluation criteria and methods to monitor safety and usage of bicycle and pedestrian improvements.
- The City shall incorporate the latest in safety design standards, signage and traffic control techniques into City regulations to ensure a high level of safety for bicyclists, pedestrians and motorists.

Actions

- Incorporate bicycle and pedestrian facilities in new or reconstructed streets where indicated on the Bicycle and Pedestrian Master Plan.
- Install innovative bikeway safety features, as appropriate, such as separated bikeways, and bicycle loop detection devices, and eliminate on-street parking conflicts.
- When applicable, install buffered bike lanes when re-striping or planned bike lanes are implemented.
- When installing Class III signed bicycle routes, install Shared Lane Markings, or "sharrows", when applicable.
- Ensure traffic calming street facilities such as bulb-outs, traffic circles and roundabouts, are designed to safely accommodate bicyclists and pedestrians.
- Reference the latest advances in bicycle, pedestrian, transit and urban greening facility design for existing and future projects.
- New or modified traffic signals along City streets with designated Class II or Class III bikeways shall include bicycle detection systems.
- Where street reconstruction projects extend across "at-grade" railroad crossings, streets shall be designed to include bicycle facilities, stop bars and pedestrian crossings with tactile warning as approved by the City Engineer and the Union Pacific Railroad.
- When installing new drainage inlets or replacing old ones, grates should not be installed in Class II bicycle lanes, or at a minimum they should be designed as "bike-friendly" grates.
- Ensure bicycle and pedestrian facilities in all new Specific Plans and the General Plan Element Updates are consistent with this Plan.
- Develop a bike route maintenance and tracking system to monitor and repair bikeway pavement surfaces.
- Prioritize bicycle and pedestrian improvements around schools, parks and transit.
- Create an inventory of existing and missing sidewalks, informal pathways, and key pedestrian opportunity areas.

- Ensure sidewalks meet ADA standards and are maintained regularly, especially around Downtown, schools, parks, retail and transit stops.
- Wherever applicable, implement planted parkways zones to provide additional separation between the sidewalk and travel lanes, particularly along higher speed arterials.
- Routinely collect pedestrian and bicycle volumes by requiring them to be conducted in conjunction with all intersection turning movement counts.
- Coordinate with SLOCOG and SLO County on bicycle and pedestrian counts being conducted as part of the SLO County Bikeways Plan and other studies for locations within the City.
- Conduct annual or biannual counts of bicycle and pedestrian volumes in the vicinities of schools during peak morning arrivals and afternoon departures.
- Conduct annual or biannual counts of bicycle and pedestrian volumes in the vicinities of high priority projects along existing and planned regional corridors, Downtown and activity centers that are identified in this plan.
- Geo-code bicycle and pedestrian volume data with GIS software along with other data such as pedestrian control devices and collisions to analyze data for trends or hotspots related to bicycle and pedestrian safety.
- Evaluate various performance measures for planned and completed bicycle and pedestrian projects that may include:
  - Total miles of bike lanes/trails built or striped
  - Linear feet of new pedestrian accommodation
  - Number of ADA accommodations built
  - Number of transit accessibility accommodations built
  - Bicycle, Pedestrian and Multimodal Levels of Service (LOS)
  - Transportation mode shift, provided by the Household Travel Survey
  - Transit ridership
  - Percentage of transit stops accessible via sidewalks and curb ramps
  - Rate of crashes, injuries, and fatalities by mode
  - Rate of children walking or bicycling to school
  - Vehicle Miles Traveled (VMT)

Goal 3: Bicycle and Pedestrian Safety

Policies

- The City shall develop a multi-modal network that is focused on bicycle and pedestrian safety.
- The City shall work with the North County Cyclepeds (NCCP) to develop a comprehensive bicycle and pedestrian safety training program.
- The City shall improve safety conditions for bicyclists and pedestrians through law enforcement efforts focused on both motorists, bicyclists and pedestrians.
- The City shall require a well connected bicycle and pedestrian network linking new and existing development to adjacent land uses.

Actions

- Update the City's Street Standards and Specifications to implement current safety design standards and methodology such as incorporating separated bikeways or buffered bike lanes.
- Collaborate with the Bike SLO County, Paso Robles Police Department, Department of Library and Recreation, Paso Robles Joint Unified School District, SLO Regional Rideshare and the League of American Bicyclists to develop a Bike Safety Outreach Campaign on an ongoing basis.
- Collaborate with the NCCP to develop an annual bike and pedestrian safety training program for educators and enforcement staff with the Paso Robles Police Department and Paso Robles Public Schools, and other interested persons with assistance from Bike SLO County and the League of American Bicyclists to continuously maintain well trained staff.
- Collaborate with the NCCP to develop an annual Community Bike Safety Training program for residents and businesses with assistance from the Paso Robles Police Department and the League of American Bicyclists.
- Collaborate with the NCCP to develop bicycle and pedestrian safety materials to distribute at schools, the Department of Motor Vehicles, City recreation centers, County Social Services Department, the Housing Authority and other venues in English and Spanish.
- Study all bicycle and pedestrian related collision records and create design solutions where applicable and a focused enforcement effort to reduce bicycle and pedestrian collisions.
- Continue to coordinate with SLO Regional Rideshare for the City to become an active participant in the Safe Routes to School (SRTS) program, including prioritizing activities to provide bike safety education identified in the SRTS program. Activities may include assisting with parent surveys, school assemblies, bike rodeos and other incentive and educational programs.
- Integrate pedestrian safety into the City's Street Standards Specification and Details.
- Improve street crossings and complete gaps in the sidewalk system through development review and capital improvement projects.
- Install pedestrian scale lighting along sections of multi-use paths that are away from streets for security and comfort for trail users.

Goal 4: Bicycle and Pedestrian Support Facilities

Policies

- The City shall create and a maintain comfortable pedestrian areas that enhance the walking experience.
- The City shall encourage public pedestrian improvement projects such as public art, fountains, street trees, lighting and directional signs.
- The City shall develop a citywide "end-of-trip" bicycle parking strategy to increase the number of secure, convenient, and attractive bicycle parking and storage facilities.
- The City shall work with local businesses and employment centers to install secure bicycle parking.

Actions

- Create seating opportunities (e.g. benches, raised planters, low walls, etc.) in areas where pedestrians congregate.
- Develop guidelines for placing pedestrian amenities (e.g. trash cans, drinking fountains) in areas with high levels of pedestrian traffic.
- Locate pedestrian amenities where they will not interrupt the flow of pedestrian and bicycle traffic.
- Develop standards that encourage bicycle accommodations (such as parking lockers and showers) in new or significantly rehabilitated non-residential developments.
- Develop an inspection and maintenance tracking system for bicycle racks and lockers within the public right-of-way, and ensure that they are inspected and maintained annually, and kept in a safe, clean condition. The City may establish a volunteer bike maintenance committee to conduct this work or use crowdsourcing or online GIS-based applications.
- Coordinate with SLO Regional Transit Authority and SLOCOG to provide amenities at existing and future transit stops such as shelters, seating and lighting.
- Develop design criteria for new downtown bike rack or locker facilities in the public right-of-way with input by the Main Street Association.
- Collaborate with the Main Street Association to install bike racks in the downtown area consistent with the Downtown Bike Parking Map, and to develop a "Racks with Plaques" bicycle rack donor program.
- Update the City Zoning Code, as needed, to provide Off-Street Parking Ordinance to require bike storage and support facilities including bike racks, bike lockers, rest areas, changing facilities, showers, and drinking fountains, based on the scale and type of new development, as appropriate for commercial, industrial, civic, multi-family residential, schools, employment centers, and large events.

Goal 5: Bicycling and Walking Encouragement

Policies

- As a designated Bicycle Friendly Community, the City shall continue to make measurable progress to enhance Paso Robles' image as being a "bike-friendly" City.
- The City shall coordinate with SLOCOG to support employer-bicycle, walking and transit commuter incentive programs.
- The City will coordinate with SLOCOG and the NCCP to develop programs that encourage alternative transportation for commuters by collaborating with regional partners.
- The City shall promote programs that reduce bike theft and support efforts to recover stolen bicycles.
- The City shall develop a wayfinding and signage program for existing and new bikeways.

Actions

- Develop and implement bike commuter reward programs for employers to encourage employee bike and transit commuters, such as providing informational materials on State and Federal "bike-to-work" tax break.
- Implement the regional Employer Bike Share program to make bicycles available to employers for free.
- Develop a "Bike Library" program for residents to use free, donated bicycles for residents that do not own a bike.
- Develop a volunteer "Bike Valet" program with Bike SLO County and other partners for local events to provide a safe place to park bikes while attending events such as: Farmer's Market, Concerts in the Park, and the Mid-State Fair.
- Increase focus on bicycling events such as Cycle de Mayo, Great Western Bike Rally, EROICA CA, and other events such as bike rodeos, local bike to work or school challenges, and greater participation in the SLO County - May Bike Month activities.
- Develop a community-based program to educate and inform residents of the environmental and health benefits of bike riding and to reinforce bike riding as a fun and exciting activity and sport.
- Educate the community on the health benefits of walking for health and transportation at events such as the Wine Country Runs Half-Marathon and 5K and Harvest Marathon.
- Continue to enhance "bike and walk friendly" tourist-oriented marketing materials on the City's website, TravelPaso.com, and work with the Chamber of Commerce, Main Street Association, and area businesses to do the same.
- Collaborate with the Chamber of Commerce and the Main Street Association to develop a "bike-friendly" business reward program to encourage businesses to offer benefits to customers and clients that ride their bike to their business.
- Develop a North County branch of the Bike SLO County centered in Paso Robles to bring awareness of bike activities and educational outreach programs to the local community.
- Step up enforcement activities that prohibit motorists illegally occupying Class II bike lanes.
- Coordinate with hotels and local businesses to survey customers on their walking and bicycling experiences within the City.
- Coordinate with the NCCP and SLOCOG on the Regional Bicycle Wayfinding and Signage Strategy for route planning, branding and implementation.

Goal 6: Bike and Pedestrian Project Partnering and Funding

Policies

- The City shall collaborate with local, regional, state, and federal agencies, and private entities, including SLOCOG, Caltrans, San Luis Obispo County Air Pollution Control District, and others to ensure the City's Bicycle and Pedestrian Master Plan is consistent with regional transportation plans and agency regulations.

Actions

- Coordinate with SLO County and SLOCOG for inter-regional improvements, and to jointly apply for federal, state and regional bike facility improvement grants.
- Coordinate with the NCCP to identify and apply for other available funding sources such as Caltrans' Active Transportation Program (ATP) and Prop 83 Stormwater Grants.
- Develop an ongoing bicycle improvement planning process to review facilities installed, assess future needs, potential funding sources and make recommendations to update the Bicycle and Pedestrian Master Plan.
- Pursue Safe Routes to School grant funding for bicycle and pedestrian improvements.
- Accelerate the implementation of lower priority projects if opportunities present themselves.
- The City should designate a Bicycle and Pedestrian Coordinator utilizing existing City staff resources to administer and coordinate implementation of this Plan and bike programs. This coordinate should be encouraged to be a member of the Association of Pedestrian and Bicycle Professionals (APBP).

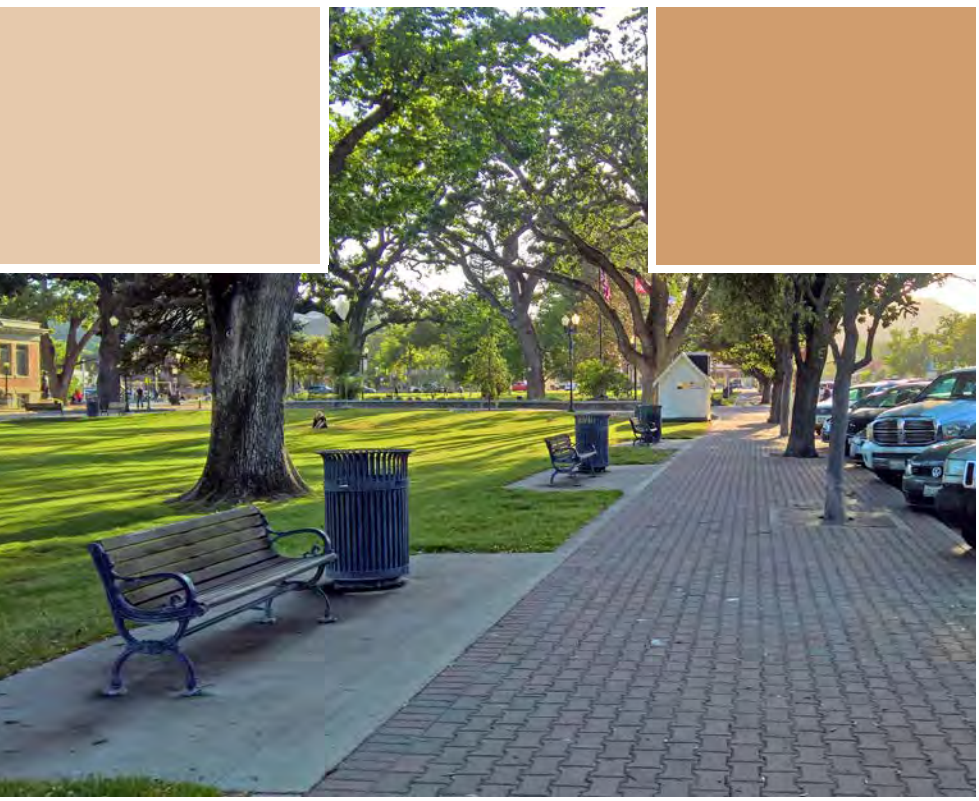
Goal 7: Economic Growth

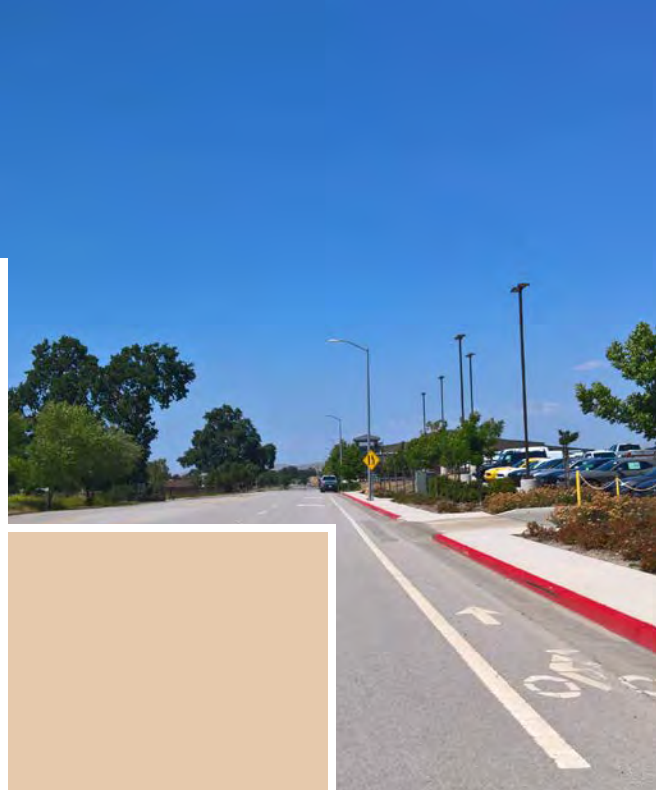
Policies

- The City shall recognize the bicycle and pedestrian networks as an integral part of economic development and quality of life.
- The City shall encourage safe bicycling and walking in commercial and tourist areas to stimulate economic vitality.

Actions

- Require bicycle and pedestrian amenities in new developments to create pleasant travel conditions for everyone.
- Incorporate bicycle and pedestrian facilities in all planning and design efforts.
- Promote attractive streetscape, landscaping, public art and bicycle and pedestrian amenities along major commercial and tourist corridors.
- Design City roads and other facilities to promote convenient access to all users to allow efficient movement of people and goods, including vehicles, trucks, bicycles and pedestrians.
- Encourage businesses to provide employees with incentives to offset any additional costs that may result from bicycling or walking to work.
- Promote incentives between businesses and customers to encourage walking and bicycling to businesses.
- Encourage partnerships between businesses to provide employees discounts on equipment needed to bicycle or walk to work.
- Encourage bicycling and walking to work as a way to reduce parking requirements for employers and businesses.
- Continue to recognize the importance of bicycling and walking as a way to enhance local tourism efforts.
- Promote bicycling and walking as an incentive to increase tourist expenditures.
- Continue to promote bicycling events, such as EROCIA, Cycle de Mayo and charity runs such as walk-a-thons, fun-runs and marathons to attract bicyclists and runners from out of town.
- Encourage the Paso Robles Chamber of Commerce and business community to promote bicycling and walking in commercial areas and nearby neighborhoods to stimulate economic activity.





3

State of Practice

Overview

Over the past five years the state of practice for bicycle facilities in the United States has undergone a significant transformation. Much of this may be attributed to bicycling's changing role in the overall transportation system. Once viewed as an "alternative" mode, it is increasingly viewed as a legitimate transportation mode and one that should be actively promoted as a means of achieving environmental, social and economic goals. (Due to a long history of routine accommodation for pedestrians, such as sidewalks, crosswalks, dedicated signals, etc., there are relatively few innovations in pedestrian facilities.)

While connectivity and convenience remain essential bicycle facility quality indicators, recent research indicates the increased acceptance and practice of daily bicycling will require "low-stress" bicycle facilities. Facility types and specific design interventions intended to encourage ridership among the "interested, but concerned" demographic tend to be those that provide separation from high volume and high speed vehicular traffic.

Just as the state of practice has bicycle facilities has evolved, so has technical guidance. While bikeway design guidance in California has traditionally come from the State, especially Caltrans and the California Manual on Uniform Traffic Control Devices (CA MUTCD), cities are increasingly turning to national organizations for guidance on best practices. Primary organizations include the American Association of State Highway and Transportation Officials (AASHTO), the National Association of City Transportation Officials (NACTO) and the Federal Highway Administration (FHWA).

Fortunately for California cities, there is increased flexibility in design guidance offered by both Caltrans and the FHWA. In 2014, Caltrans officially endorsed the NACTO Urban Street Design Guide and Urban Bikeway Design Guide as valuable toolkits for designing and constructing safe, attractive local streets. California cities may also apply for experimental designation from the FHWA for projects not in conformance with the CA MUTCD.

The guidance provided by these manuals support the creation of more Complete Streets. The guidance is also supported by several pieces of important legislation. The following section provides a review of the state of practice for bicycle facilities, drawing on the AASHTO and NACTO guides. It also includes a discussion on Complete Streets/ Routine Accommodation and as well as summaries of relevant legislation at the local, regional, State and national levels.

Primary Guidance

AASHTO Guide to Bikeway Facilities

This memorandum expresses the Federal Highway Administration's (FHWA) support for taking a flexible approach to bicycle and pedestrian facility design. The AASHTO bicycle and pedestrian design guides are the primary national resources for planning, designing, and operating bicycle and pedestrian facilities. The NACTO Urban Bikeway Design Guide and the Institute of Transportation Engineers (ITE) Designing Urban Walkable Thoroughfares guide builds upon the flexibilities provided in the AASHTO guides, which can help communities plan and design safe and convenient facilities for pedestrians and cyclists. FHWA supports the use of these resources to further develop non-motorized transportation networks, particularly in urban areas.

NACTO Urban Bikeway and Urban Street Design Guides

The NACTO guides represent the industry standard for innovative bicycle and streetscape facilities and treatments in the United States. In 2014, Caltrans followed AASHTO and officially endorsed the NACTO Urban Bikeway Design Guide. It is important to note that virtually all of its design treatments (with two exceptions) are permitted under the Federal MUTCD. The NACTO Urban Street Design Guide is the more generalized of the two guides and organized into six sections. Each section is further subdivided, depending on topic. The NACTO Urban Bikeway Design Guide is also organized into six sections, but its information is bicycle-specific. For each section, it offers three levels of guidance: Required Features, Recommended Features and Optional Features. The following section introduces the broad facility types included in the NACTO Urban Bikeway Design Guide.

In 2014, Caltrans officially endorsed the NACTO Urban Street Design Guide and Urban Bikeway Design Guide as valuable toolkits for designing and constructing safe, attractive local streets. At the time, Caltrans was only the third State Department of Transportation to officially endorse the Guides.

Further categorization and design details are included in Appendix A: Design Guidelines.

Complete Streets and Routine Accommodation

An adopted Bicycle and Pedestrian Master Plan provides a roadmap to support planning and implementing a bicycle and pedestrian network, can help to integrate bicycle and pedestrian planning into broader planning efforts and is required for State funding of bikeway projects.

For many cities, however, a bicycle and pedestrian plan alone is not enough to ensure the implementation of the plan's goals and projects. A hurdle many cities face is that their various plans are not well integrated. Despite many cities' attempts to support a "Complete Streets approach," entrenched and often contradictory policies can make implementation difficult. For instance, a Bicycle and Pedestrian Master Plan, an ADA transition plan and a specific plan may address the same area, but ignore each other's recommendations. One plan may identify a certain project, but it may not be implementable due to prevailing policies and practices that prioritize vehicular flow and parking over other modes.

An adopted Complete Streets policy has the potential to address these shortcomings through the designation of some important corridors as Complete Streets, accommodating all roadway users, and other corridors as priority corridors for a certain modes. A system that assigns priority for different modes to specific corridors, offset from one another, is referred to as a layered network.

Efforts to implement Complete Streets policy often highlight other significant obstacles, chief among them documents defining "significant impacts" to traffic, acceptable vehicular "Level of Service" thresholds and parking requirements. Drafting a Complete Streets policy often means identifying roadblocks like these and ultimately mandating increased flexibility to allow for the creation of a more balanced transportation system. In the case of a Bicycle and Pedestrian Master Plan, the network identified could become the bicycle and pedestrian layers. Identification in such a plan, reiteration within a Complete Streets policy framework and exemption from traditional traffic analyses can make implementation more likely and much more affordable.

Legislative support for Complete Streets can be found at the State level (AB-1358) and is being developed at the national level (HR-2468). As explained in further detail in the following section on applicable legislation, AB-1358 requires cities and counties to incorporate Complete Streets in their general plan updates and directs the State Office of Planning Research (OPR) to include Complete Streets principles in its update of guidelines for general plan circulation elements. Examples of best practices in Complete Streets Policies from around the United States can be found at: http://www.smartgrowthamerica.org/complete-streets-2013-analysis.

Applicable Legislation

Several pieces of legislation support increased bicycling and walking in the State of California. Much of the legislation addresses greenhouse gas (GHG) reduction and employs bicycling and walking as means to achieve reduction targets. Other legislation highlights the intrinsic worth of bicycling and walking and treats the safe and convenient accommodation of cyclists and walkers as a matter of equity. The most relevant legislation concerning bicycle and pedestrian policy, planning, infrastructure and programs are described in the following sections.

State Legislation and Policies

AB-32 California Global Warming Solutions Act

AB-32 calls for the reduction of greenhouse gas emissions and codifies the 2020 emissions reduction goal. This act also directs the California Air Resources Board to develop specific early actions to reduce greenhouse gases while also preparing a scoping plan to identify how best to reach the 2020 limit.

SB-375 Redesigning Communities to Reduce Greenhouse Gases

This bill seeks to reduce vehicle miles traveled through land use and planning incentives. Key provisions require the larger regional transportation planning agencies to develop more sophisticated transportation planning models, and to use them for the purpose of creating "preferred growth scenarios" in their regional plans that reduce greenhouse gas emissions. The bill also provides incentives for local governments to incorporate these preferred growth scenarios into the transportation elements of their general land use plans.

AB-1358 Complete Streets Act

AB-1358 requires the legislative body of a city or county, upon revision of the circulation element of their general plan, to identify how the jurisdiction will provide for the routine accommodation of all users of the roadway including drivers, pedestrians, cyclists, individuals with disabilities, seniors and public transit users. The bill also directs the OPR to amend guidelines for general plan circulation element development so that the building and operation of local transportation facilities safely and conveniently accommodate everyone, regardless of their travel mode.

AB-1581 Bicycle and Motorcycle Traffic Signal Actuation

This bill defines a traffic control device as a traffic-actuated signal that displays one or more of its indications in response to the presence of traffic detected by mechanical, visual, electrical or other means. Upon the first placement or replacement of a traffic-actuated signal, the signal would have to be installed and maintained, to the extent feasible and in conformance with professional engineering practices, so as to detect lawful bicycle or motorcycle traffic on the roadway. Caltrans has adopted standards for implementing the legislation.

AB-1371 Passing Distance/Three Feet for Safety Act

This statute, widely referred to as the "Three Foot Passing Law," requires drivers to provide at least three feet of clearance when passing cyclists. If traffic or roadway conditions prevent drivers from giving cyclists three feet of clearance, they must "slow to a speed that is reasonable and prudent" and wait until they reach a point where passing can occur without endangering the cyclist. Violations are punishable by a $35 base fine, but drivers who collide with cyclists and injure them in violation of the law are subject to a $220 fine.

SB-743 CEQA Reform

Just as important as the aforementioned pieces of legislation that support increases in bicycling and walking infrastructure and accommodation is one that promises to remove a longstanding roadblock to them. That roadblock is vehicular Level of Service (LOS) and the legislation with the potential to remove it is SB-743.

For decades, vehicular congestion has been interpreted as an environmental impact and has of-

ten stymied on-street bicycle projects in particular. Projections of degraded Level of Service have, at a minimum, driven up project costs and, at a maximum, precluded projects altogether. SB-743 could completely remove LOS as a measure of vehicle traffic congestion that must be used to analyze environmental impacts under the California Environmental Quality Act (CEQA).

This is extremely important because adequately accommodating cyclists, particularly in built-out environments, often requires reallocation of right-of-way and the potential for increased vehicular congestion. The reframing of Level of Service as a matter of driver inconvenience, rather than an environmental impact, allows planners to assess the true impacts of transportation projects and will help support bicycling projects that improve mobility for all roadway users.

CEQA for Bicycle and Pedestrian Plans

Planning projects such as this are exempt from CEQA analysis since they are planning and conceptual recommendations. As individual recommendations move forward toward further design and implementation, the City will then need to determine if there are environmental impacts in which and EIR may be necessary.

California Bicycle Coalition Three Feet Passing for Safety Education Logo

15262. Feasibility and Planning Studies

A project involving only feasibility or planning studies for possible future actions which the agency, board, or commission has not approved, adopted, or funded does not require the preparation of an EIR or Negative Declaration but does require consideration of environmental factors. This section does not apply to the adoption of a plan that will have a legally binding effect on later activities. Association of Environmental Professionals 2014 CEQA Guidelines 229

Note: Authority cited: Section 21083, Public Resources Code; Reference: Sections 21102 and 21150, Public Resources Code.

AB-1193 Bikeways

This act amends various code sections, all relating to bikeways in general, specifically by recognizing a fourth class of bicycle facility, cycle tracks. However, the following may be even more significant to future bikeway development:

Existing law requires Caltrans, in cooperation with county and city governments, to establish minimum safety design criteria for the planning and construction of bikeways, and requires the department to establish uniform specifications and symbols regarding bicycle travel and traffic related matters. Existing law also requires all city, county, regional and other local agencies responsible for the development or operation of bikeways or roadways to utilize all of those minimum safety design criteria and uniform specifications and symbols.

This bill revises these provisions to require Caltrans to establish minimum safety design criteria for each type of bikeway by January 1, 2016, and also authorizes local agencies to utilize different minimum safety criteria if adopted by resolution at a public meeting.

SB-672 Traffic-Actuated Signals: Motorcycles and Bicycles

This bill extends indefinitely the requirement to install traffic-actuated signals to detect lawful bicycle or motorcycle traffic on the roadway. By extending indefinitely requirements regarding traffic-actuated signals applicable to local governments, this bill would impose a state-mandated local program.

Protected Bicycle Lane
San Franciso, CA

Existing law requires the state to reimburse local agencies and school districts for certain costs mandated by the state.

SB-760 Transportation Funding: Active Transportation: Complete Streets

This bill seeks to establish a Division of Active Transportation within Caltrans to give attention to active transportation program matters to guide progress toward meeting the department's active transportation program goals and objectives. This bill requires the California Transportation Commission to give high priority to increasing safety for pedestrians and bicyclists and to the implementation of bicycle and pedestrian facilities. The bill also directs the department to update the Highway Design Manual to incorporate "complete streets" design concepts, including guidance for selection of bicycle facilities.

AB-1218 California Environmental Quality Act Exemption: Bicycle Transportation Plans

This bill extends CEQA requirements exemptions for bicycle transportation plans for an urbanized area until January 1, 2021. These exemptions include restriping of streets and highways, bicycle parking and storage, signal timing to improve street and highway intersection operations, and related signage for bicycles, pedestrians, and vehicles under certain conditions. Additionally, CEQA will also exempt from its requirements projects consisting of restriping of streets and highways for bicycle lanes in an urbanized area that are consistent with a bicycle transportation plan under certain conditions.

Caltrans' Deputy Directive 64-R1

Deputy Directive 64-R1 is a policy statement affecting Caltrans mobility planning and projects requiring the agency to: "...provide for the needs of travelers of all ages and abilities in all planning, programming, design, construction, operations, and maintenance activities and products on the State highway system. The Department views all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in California and recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation system."

The directive goes on to mention the environmental, health and economic benefits of more Complete Streets.

AB 902 Traffic Violations and Diversion Programs

Existing law provides that a local authority may not allow a person who has committed a traffic violation under the Vehicle Code to participate in a driver awareness or education program as an alternative to the imposition of those penalties and procedures, unless the program is a diversion program

Driving Through an Activated RRFB
Carslbad, CA

Buffered Bike Lane
San Diego, CA

for a minor who commits an infraction not involving a motor vehicle and for which no fee is charged.

This bill would instead allow any person of any age who commits an infraction not involving a motor vehicle to participate in a diversion program that is sanctioned by local law enforcement. The bill would eliminate the requirement that such a program charge no fee. The bill would make other technical, non-substantive changes.

AB 1096 Electric Bicycles as Vehicles

Existing law defines a "motorized bicycle" as a device that has fully operative pedals for propulsion by human power and has an electric motor that meets specified requirements. The bill would define an "electric bicycle" as a bicycle with fully operable pedals and an electric motor of less than 750 watts, and would create 3 classes of electric bicycles, as specified.

The bill would prohibit the operation of a class 3 electric bicycle on specified paths, lanes, or trails, unless that operation is authorized by a local ordinance. The bill would also authorize a local authority or governing body to prohibit, by ordinance, the operation of class 1 or class 2 electric bicycles on specified paths or trails.

Federal Legislation

Safe Streets Act (S-2004/HR-2468)

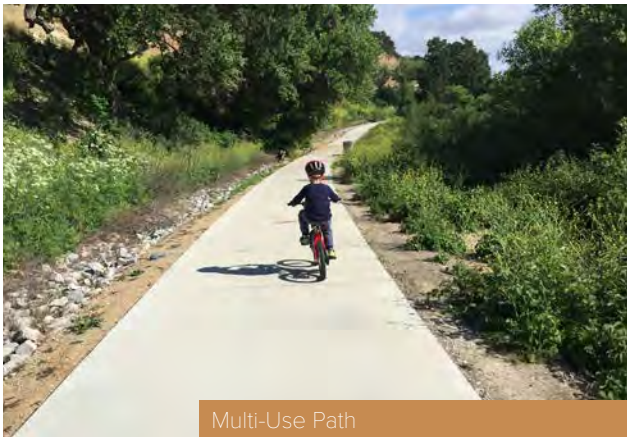
HR2468 encourages safer streets through policy adoption at the state and regional levels, mirroring an approach already being used in many local jurisdictions, regional agencies and states governments. The bill calls upon all states and metropolitan planning organizations (MPOs) to adopt Safe Streets policies for federally funded construction and roadway improvement projects within two years. Federal legislation will ensure consistency and flexibility in road-building processes and standards at all levels of governance.

Conventional Bicycle Facilities

There are three conventional bicycle facilities types in California. These facilities are recognized by the CA Department of Transportation and details of their design, wayfinding and pavement markings can be found in the CA MUTCD and CA Highway Design Manual.

Class I: Multi-Use Paths

Class 1 multi-use paths (frequently referred to as "bicycle paths") are physically separated from motor vehicle routes, with exclusive rights-of-way for non-motorized users like cyclists and pedestrians.



Multi-Use Path

Class II: Bicycle Lanes

Bicycle lanes are one-way facilities that carry bicycle traffic in the same direction as the adjacent motor vehicle traffic. They are typically located along the right side of the street, between the adjacent travel lane and curb, road edge or parking lane.

At key locations where heavy traffic and bicycle use is common, green bicycle lanes may be recommended to provide additional visibility where bicyclists and vehicles will merge.

Bicycle Lane

Class III: Bicycle Routes

A bicycle route is a suggested bicycle route marked by signs designating a preferred route between destinations. They are recommended where traffic volumes and roadway speeds are fairly low.

Bicycle Route

Enhanced Bicycle Facility Types

While conventional bicycle facilities can be found throughout the country, there has been a shift towards enhancing these facilities. Just recently, the CA MUTCD approved the installation of buffered bicycle lanes, while Shared Lane Markings or "Sharrows" have been around since 2008.

These enhancements are low cost, easy to install, and provide additional awareness to the location of cyclists. In many instances, installation of these bicycle facility enhancements can be coordinated with street resurfacing projects. The use of green paint has also become a simple and effective way to communicate the presence of bicyclists.

Buffered Bike Lanes

Buffered Bicycle Lanes

Buffered bicycle lanes are additional space between the bicycle lane and traffic lane, parking lane or both provide a more protected and comfortable space for cyclists than a conventional bicycle lane.

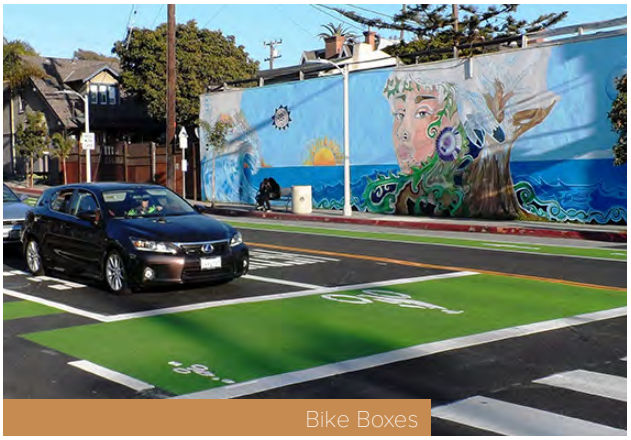
Shared Lane Markings ("Sharrows")

Shared Lane Markings ("Sharrows")

The shared lane marking is commonly used where parking is allowed adjacent to the travel lane. It is now common practice to center them within the typical vehicular travel route in the rightmost travel lane to ensure adequate separation between cyclists and parked vehicles (35 mph or less).

Bike Boxes

A bike box is a designated area at the head of a traffic lane at a signalized intersection that provides bicyclists with a safe and visible way to get ahead of queuing traffic during the red signal phase.



Bike Boxes

Low Stress Bicycle Facility Types

There are a number of other non-conventional facilities that the City may find useful in specific situations. In many cases, the conventional bicycle facilities may not meet the safety perceptions of the bicycling community. Protected bicycle lanes, low-stress streets, bicycle prioritized routes are an ever-evolving, ever-improving state of practice.

The facilities in this section have been implemented in other countries with great success and are quickly being implemented in the US. Cycle tracks and bicycle boulevards can be found throughout California since they are proven to improve bicycling safety and increase bicycle mode share.

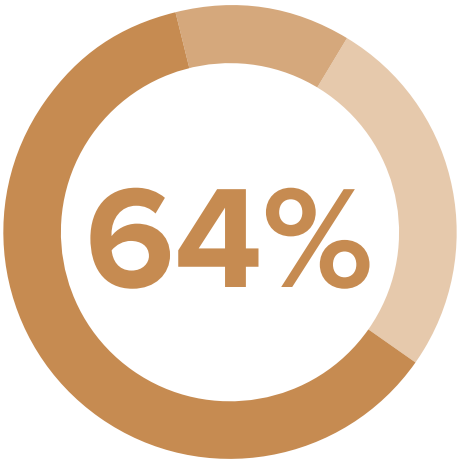
Details of these facilities and other treatments can be found in the NACTO Urban Bikeway Design Guide or AASHTO Guide of the Development of Bicycle Facilities.

Class IV: Separated Bikeways

A separated bikeway, commonly known as cycle tracks, is an exclusive bike facility that combines the user experience of a separated path with the on-street infrastructure of a conventional bike lane. They can be either one-way or two-way depending on the street network, available right-of-way and adjacent land use. A separated bikeway is physically separated from motor traffic and distinct from the sidewalk. There are a variety of physical protection measures that range from reflective bollards to parked vehicles.

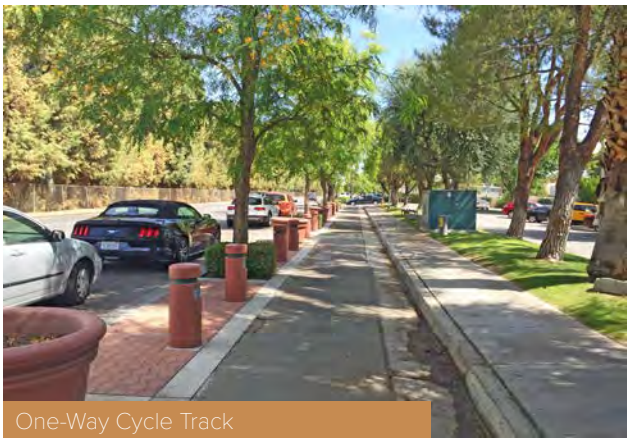
Signage and Wayfinding

The purpose to signage and wayfinding on bicycle boulevards is to identify routes to both bicyclists and motorists, provide destination information, branding and inform about changes in road conditions and users of the street.

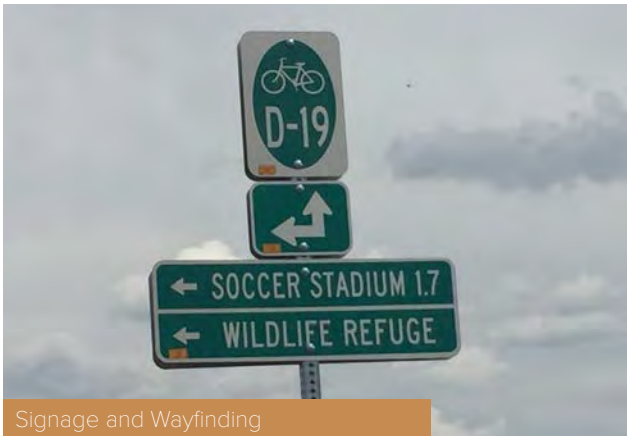


"Of people who would like to bike more say that protected bike lanes would make a difference to their transportation choices."

***PeopleForBikes Program, 2015**



One-Way Cycle Track



Signage and Wayfinding

Pedestrian Facility Types

The pedestrian environment is the heart of Paso Robles. With a grid street system, urban forestry and land use and demographics that support walking, enhancing this form of transportation will only increase safety and accessibility throughout Downtown. Many of the streets already have sidewalks, especially through the neighborhoods and commercial areas.

The following examples identify crossing treatments that apply to the Downtown area.

Pedestrian Refuge

Refuge islands provide pedestrians and bicyclists a refuge area within intersection and mid-block crossings. Refuge islands provide a location for pedestrians or bicyclists to wait partially through their crossing.

Pedestrian Refuge

Mid-block Crossings

Mid-block crossings provide convenient locations for pedestrians to cross urban thoroughfares in areas with infrequent intersection crossings or where the nearest intersection crossing creates substantial out-of-direction travel.

Mid-block Crossing

Curb Extensions

Also called bulb-outs or neck-downs, curb extensions extend the line of the curb into the travel way, reducing the width of the street. Typically occurring at intersections, they reduce the length a pedestrian has to cross.

Curb Extension

Multi-Use Paths

Multi-use paths can either be the Caltrans designated Class I Multi-Use path or a pathway that looks and acts like one, but does not meet all the criteria of a Class I, such as a barrier if less than 4 feet from the curb. These multi-use paths can be sidewalks wider than 4 feet but less than 8 feet and are adjacent to roadways or travel through open space, neighborhoods and parks. These multi-use paths can still accommodate both bicyclists and pedestrians.

Multi-Use Path

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Bicycle & Pedestrian Analysis

Existing Conditions

The City's development pattern and existing bicycle and pedestrian facilities guide the location and type of new or upgraded bicycle and pedestrian facilities needed. For instance, employment and retail centers should be served with bicycle and storage facilities. Schools should have continuous, safe bike and pedestrian connections to serve them from adjacent neighborhoods. Natural areas may be suitable for off-street multi-use trails.

This chapter summarizes the various datasets and models used to development the bicycle and pedestrian projects.

Analysis Overview

To develop this Bicycle and Pedestrian Master Plan, a thorough analysis of existing and future conditions in Paso Robles was conducted. GIS analyses, field work, community outreach, and meetings with city staff and stakeholders were conducted to gather data and input. GIS analyses involved processing datasets from the City, SLOCOG, and open source databases and combining them to reveal patterns and relationships within Paso Robles. In addition to physical characteristics, data from the 2015 American Community Survey were used to analyze demographics and commuting characteristics. Fieldwork was conducted on several occasions to catalog and measure existing conditions and to collect georeferenced photography to aid in illustrating concepts in the Plan.


21st Street

Land Use Settlement Patterns and Destinations

The City of Paso Robles has two distinct areas of town - the west and east sides, which are separated by Highway 101, the Union Pacific Railroad, and the Salinas River. There are three bridges that connect these two sides of town. Within these larger areas are six sub-areas with distinct characteristics. The sub-areas include Uptown, Eastern - South of Niblick, Eastern Mid-Neighborhood, North Mid-Neighborhood, Northeastern Business Area, and Town Center South. The land use patterns and sub-areas of Paso Robles are presented in Figure 4-1.

Westside

The City's historic origins are on the west side of town, specifically in the Uptown area. The block and street system is generally configured into a 36-street, grid pattern nestled between the base of the west side hills and the highway. The west side is an easy area for bicyclists to ride around because it has fairly flat topography. Much of the west side is comprised of older, residential neighborhoods. The west side also boasts the City's robust downtown commercial core. Downtown Paso Robles is a significant destination for residents and visitors. Major destinations in downtown include the City Park, Library/City Hall and the Emergency Services Center, the county courthouse, numerous restaurants, lodging, wine venues, cinemas, retail shopping, and offices. Additional commercial nodes on the west side include visitor services along 24th Street and several commercial service/light manufacturing oriented employment areas along Riverside Avenue.

Eastern - South of Niblick

When compared to the northern east side sub-areas, which are largely comprised of residential neighborhoods, the sub-area south of Niblick has a more balanced land use mix with three schools, five community parks, and a large public golf course. Bicycle connectivity between these activity centers is currently disjointed, but with the completion of the Creston Road bike lanes and several other planned projects the area is poised to be well connected.

Eastern Mid-Neighborhood

The bulk of the eastern mid-neighborhood sub-area is largely comprised of residential neighborhoods with several schools and parks. This sub-area also hosts an area of community commercial along Creston Road which includes large grocery stores and other major retail businesses. Bicycle facilities are located mostly along major arterial spines on the eastside and given a few small gap closures, this area is poised to have a system of small loops for cyclists.

North Mid-Neighborhood

North of Highway 46 East is a residential neighborhood, the Cuesta College, and several commercial services/manufacturing employment nodes. Similar to the Eastern Mid-Neighborhood sub-area, bicycle facilities are located mostly along major arterial spines on the North Mid-Neighborhood; connecting residents to the Salinas River as well as the two schools in the area.

Northeastern Business Area

The northeastern portion of the city is comprised of traditional commercial land uses with large retail stores, service commercial, wineries, and the Paso Robles Airport. Several large visitor-serving uses are planned in this area. Currently there is only one bicycle facility in this area; a Class I multi-use path along Golden Hill Road.

Town Center South

The south end of town is connected to the City by South Vine Street and Highway 101. The southwest side of this area is the largest retail destination in North County. This "regional shopping center", located on Theatre Drive, is primarily designed to accommodate customers in vehicles. However, there is a bike lane on Theatre Drive which provides regional bicycling access to the south. There is also a cluster of commercial service and manufacturing businesses on the southeast side of the Highway, accessed only through an underpass on Highway 46 West. This area was not designed to be bicycle-friendly.

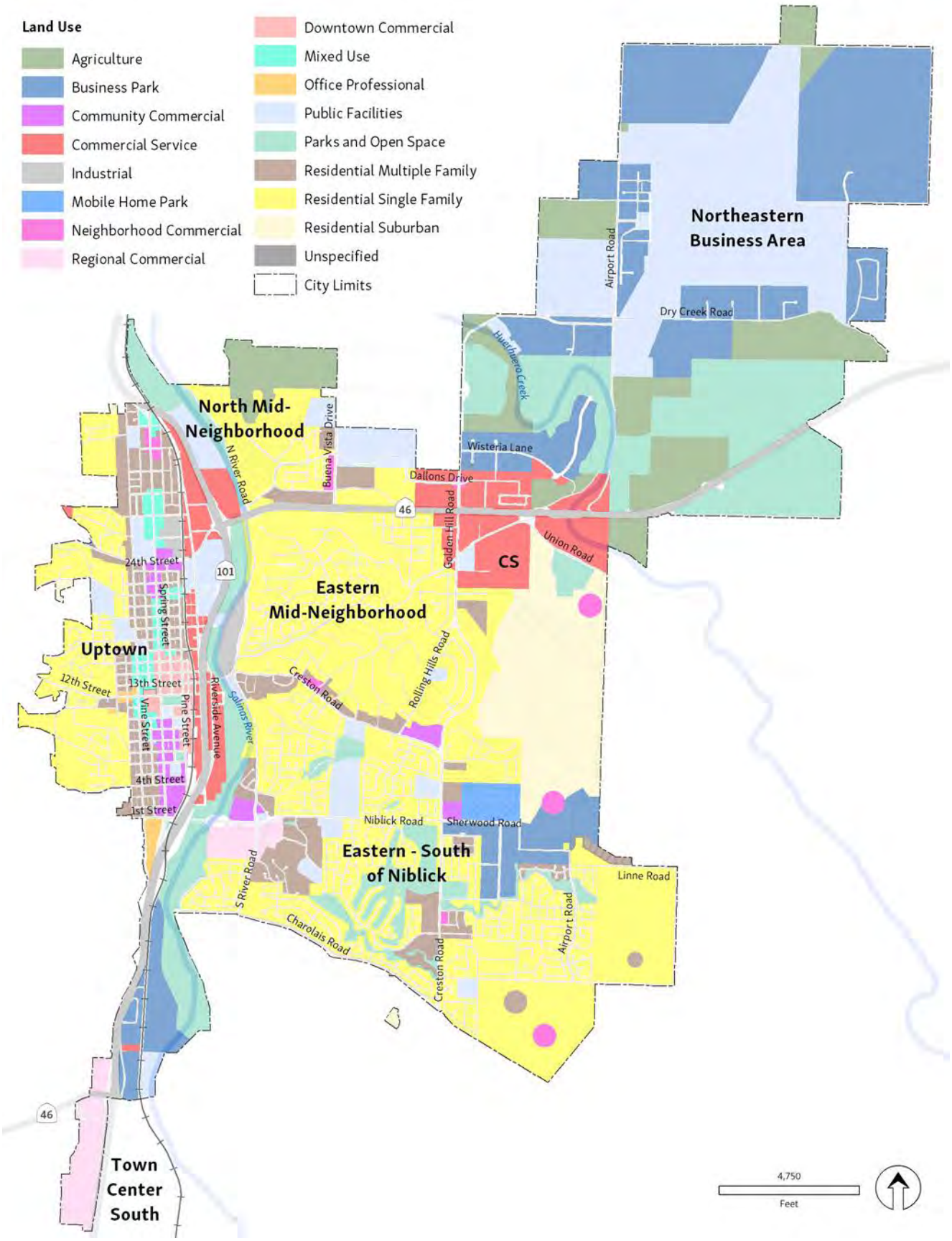


Figure 4-1: Land Use

Population and Employment

As discussed in Chapter 1, Paso Robles's 2015 population was 30,863. According to the 2015 American Community Survey, roughly 40% of the population identified as Hispanic or Latino. The median age is 36 and the male to female ratio is relatively balanced with a reported value of 95.1 males per 100 females. Compared to its neighboring unincorporated areas, Paso Robles's population density is relatively high at generally 5-7 residents per acre in the center of the city as compared to less than 1 resident per acre in adjacent areas.

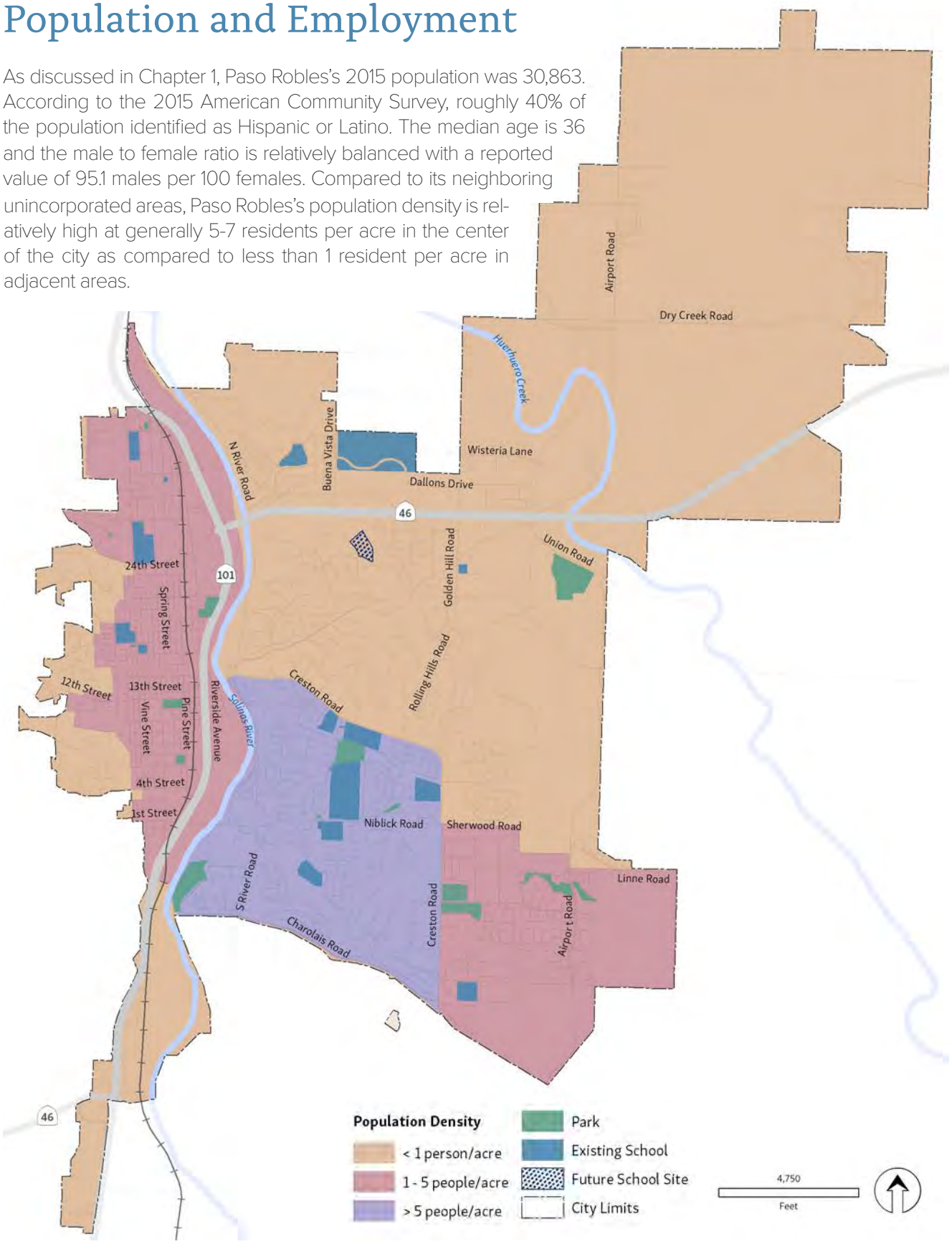


Figure 4-2: Population Density

The Eastern - South of Niblick sub-area has the largest population density in Paso Robles, with over 5 residents per acre. Paso Robles is classified as an agricultural and wine producing region. Employment density, which is tied to where employed individuals live rather than work, is highest in the Eastern Mid-Neighborhood and Northeastern Business Area sub-areas.

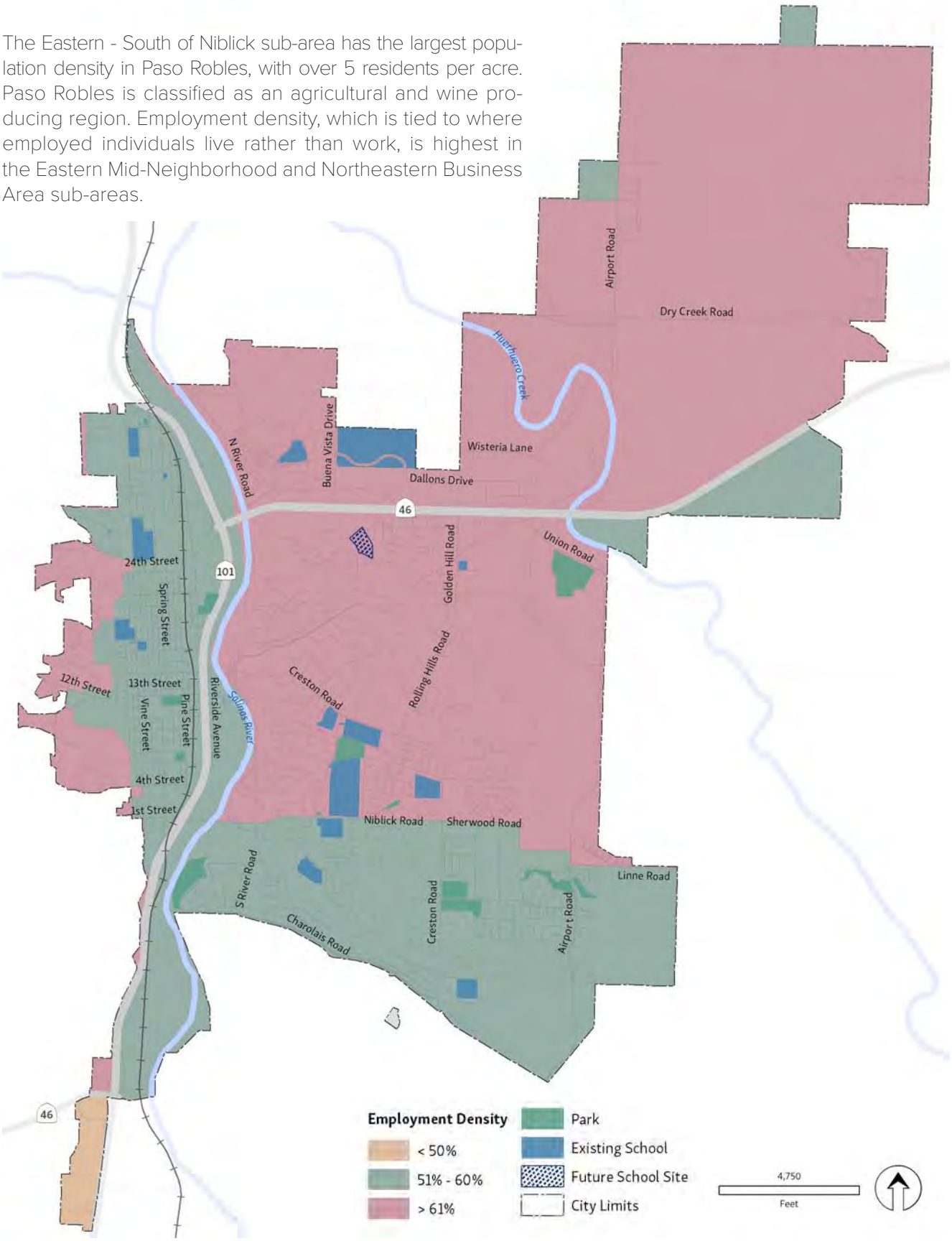


Figure 4-3: Employment Density

Existing Bicycle Facilities

Paso Robles existing bicycle facilities are comprised of multi-use paths, bike lanes and shared bike routes making up almost 31 miles of existing bikeways. The City has long stretches of existing bike lanes on Vine Street, Niblick Road, Creston Road, and Union Road. Off-street (Class I) bikeway exists in various neighborhoods particularly through canyons and parks. There are longer stretches of multi -use paths along Charolais Road, through Centennial Park and a segment of the Salinas River Trail between Navajo Road and 13th Street. The existing bicycle system is not continuous and lacks connectivity through most the City.

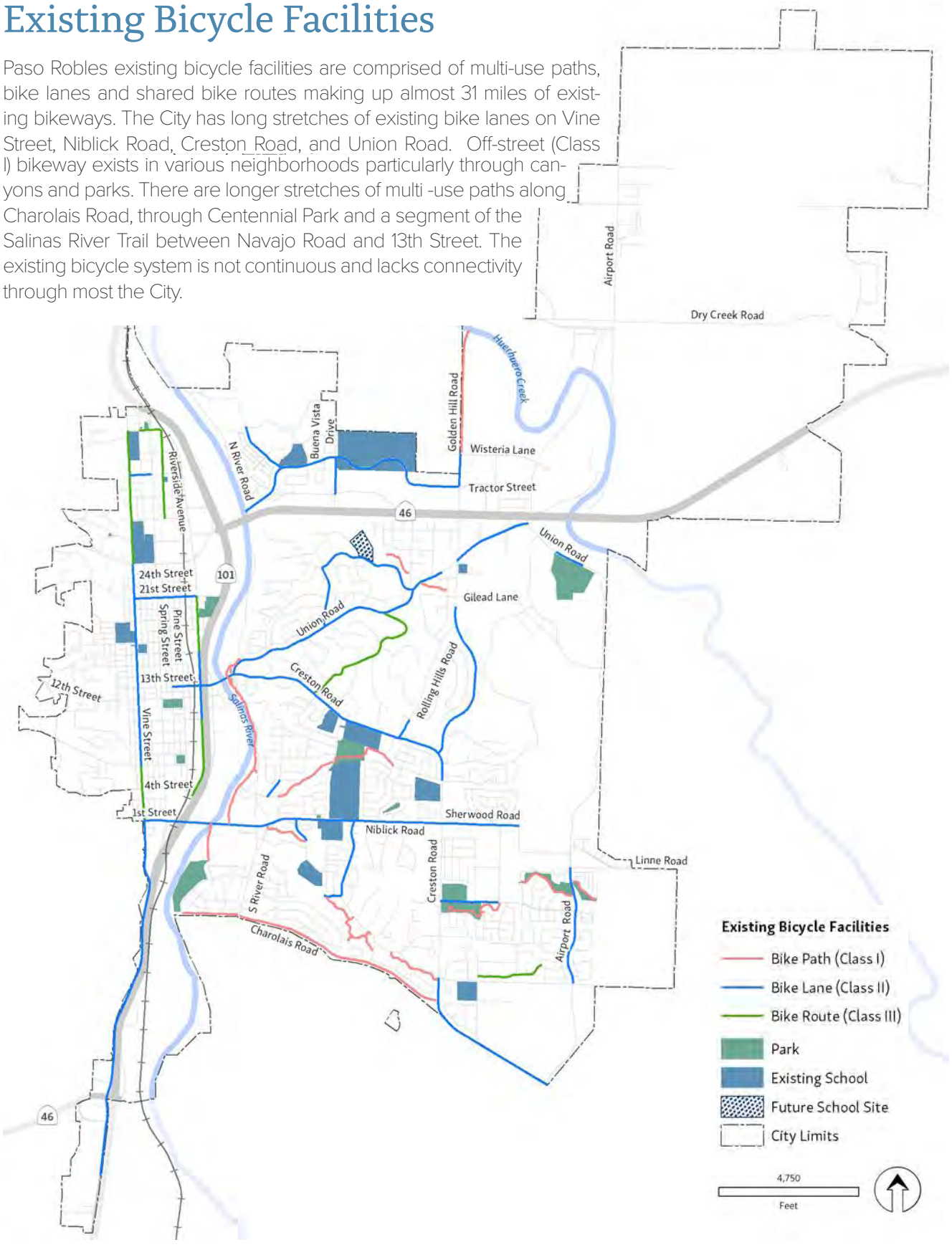


Figure 4-4: Existing Bicycle Facilities

Routes of Regional Significance

As referenced in the San Luis Obispo County Regional Transportation Plan and Preliminary Sustainable Communities Strategy (RTR/SCS), the federal Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the federal Transportation Efficiency Act for the 21st Century (1998) (TEA21), have allowed SLOCOG to apportion a larger percentage of federal county funding to projects on roadways classified as Routes of Regional Significance. Additionally, the state legislative act SB45 (1997), has made it possible for such routes to be eligible for Regional Transportation Improvement Program (RTIP) funds and SLOCOG has been able to fund a number of major projects on these routes.

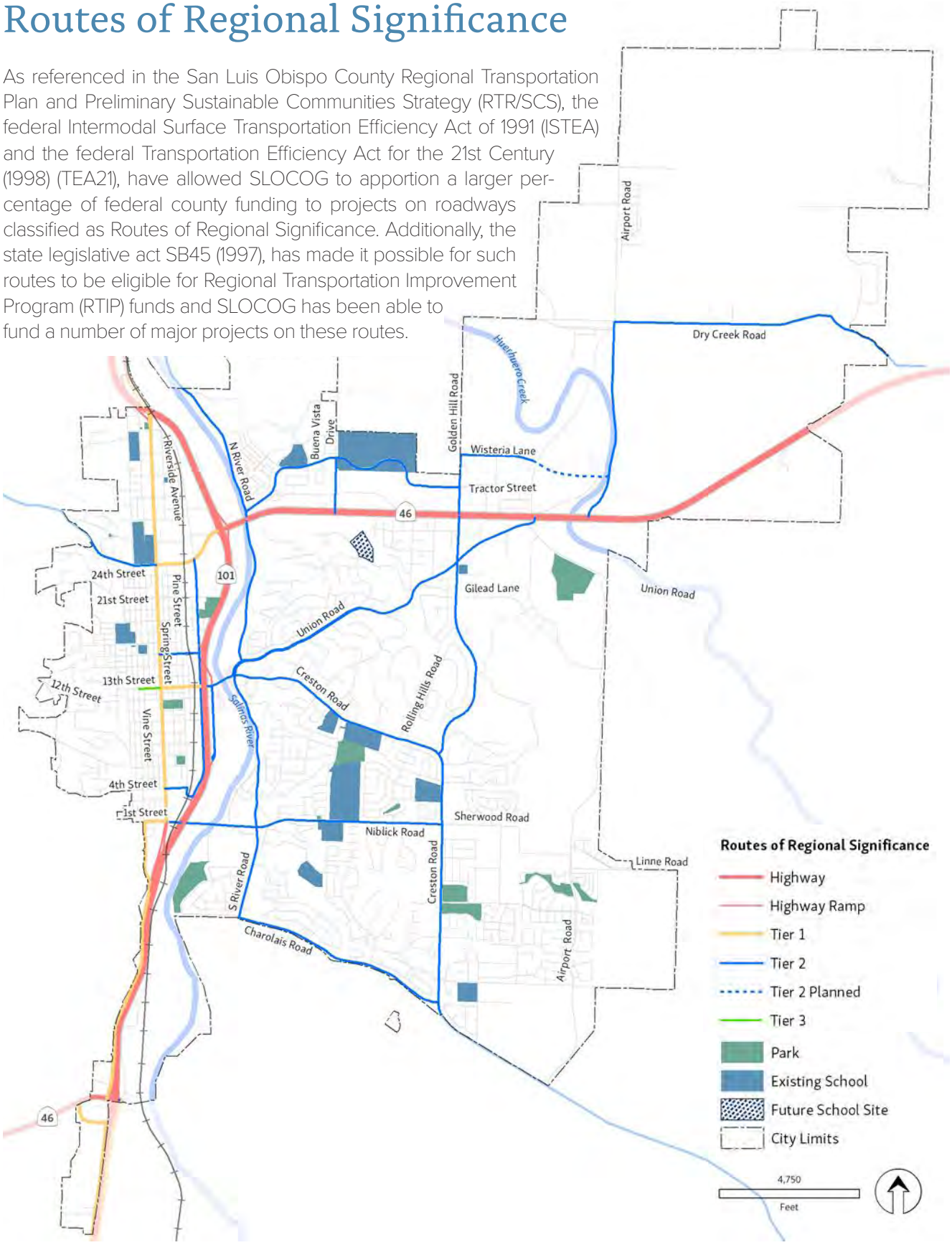


Figure 4-5: Routes of Regional Significance

Previously Proposed Bicycle Facilities – 2009 Plan

In addition to existing facilities, Paso Robles has nearly 71 miles of planned bikeways from the 2009 Bicycle Master Plan (see Figure 4-6). Of those proposed projects, 59% include bike lanes, 23% bike routes, and 11% are separated multi-use paths. The remainder includes sharrows and undefined project types.

Multi-Use Path

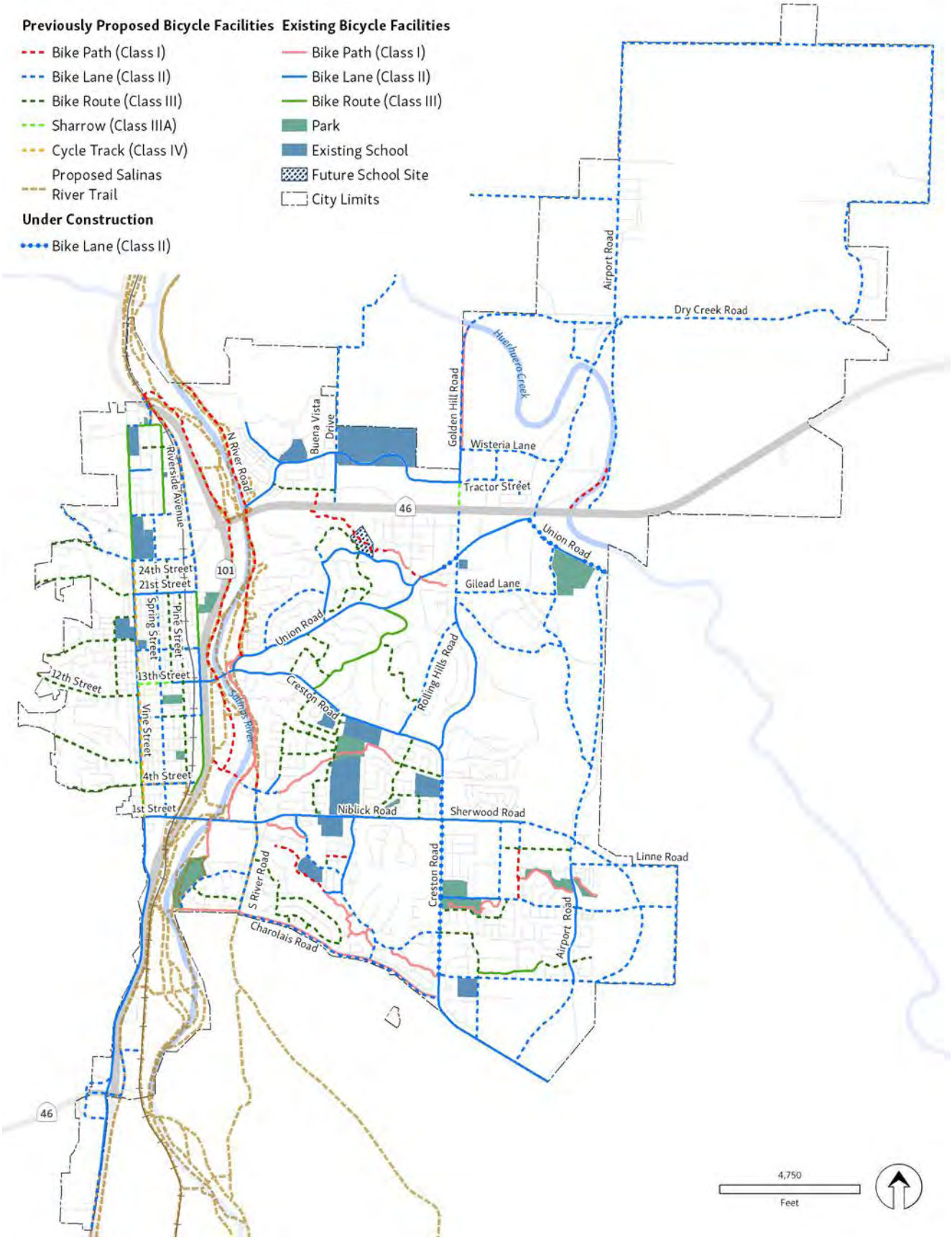


Figure 4-6: Previously Proposed Bicycle Facilities

Future Average Daily Trips (2045)

According to the Circulation Element in the 2011 General Plan, Average Daily Traffic (ADT) is expected to increase greatly throughout the city by the year 2045 (see Figure 4-7). Very few road segments, around 5%, will see a decrease in ADT during this time period. These segments are located in areas with significant circulation changes proposed along adjacent roadways. Planned modifications will alleviate the current capacity issues, thus lowering the ADT of these roadways.

Corridors projected to experience them most significant rise in ADT include the following:

- Linne Road, from Fontana Road to East City Limit at 43%
- River Oaks Drive, from River Road to Buena Vista Drive at 65%
- Union Road from Golden Hill Road to City Boundary at 247%
- Dallons Drive, from Buena Vista Drive to Golden Hill Road at 92%
- Buena Vista Drive, from Experimental Station Road to Circle B Road at 154%

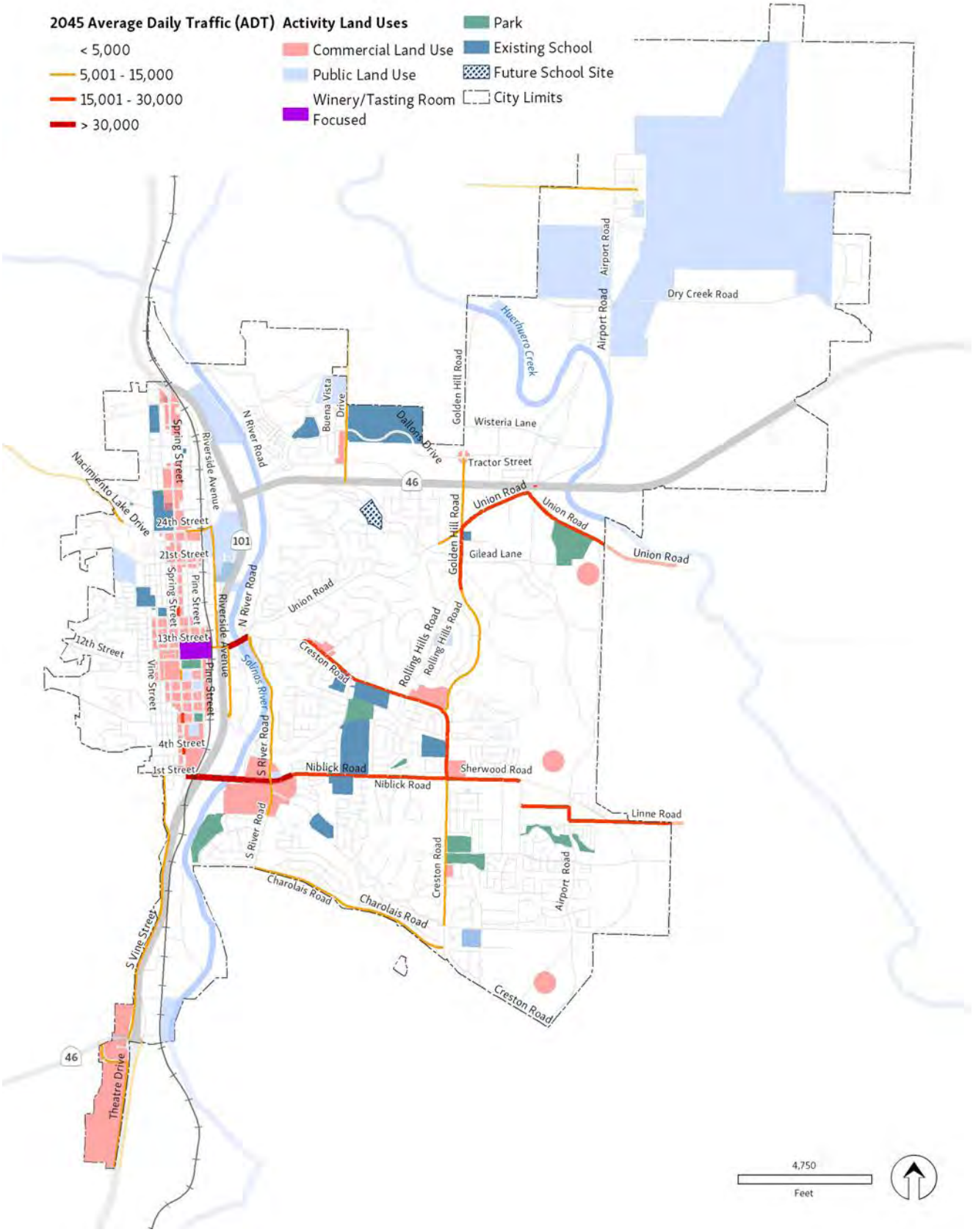


Figure 4-7: 2045 Average Daily Traffic

Activity Centers

To be eligible for State funding, a city's bicycle and pedestrian planning must address connections between specific activity center types. These activity centers are essential destinations, including the community's major employers, office buildings, industrial sites, government sites, retail centers, hospitals, tourist attractions, schools and parks. According to the public input received, Downtown Paso Robles, parks and schools were the most important activity center residents wanted to see better bicycle and pedestrian connectivity, as shown in Figure 4-8.

Downtown City Park

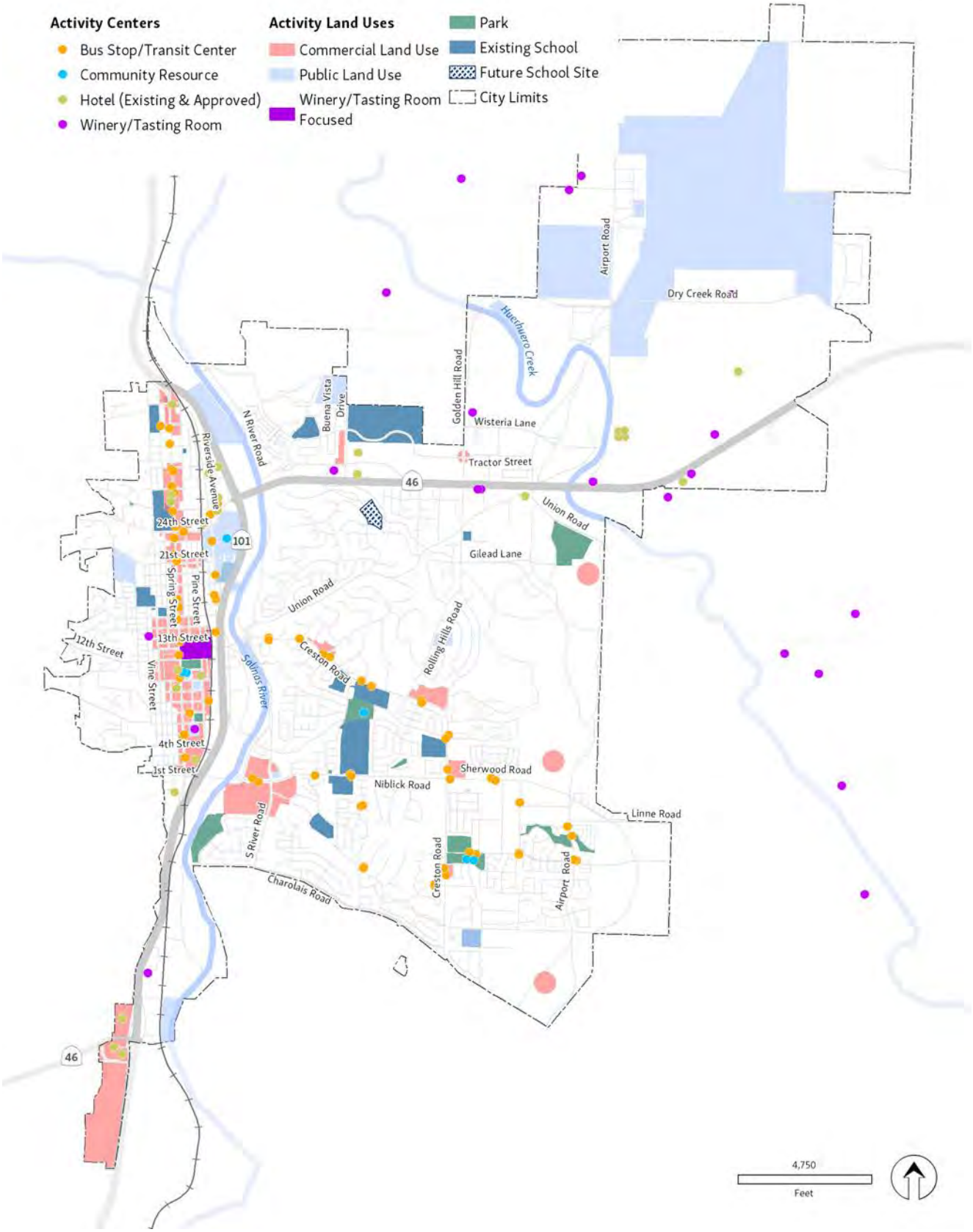


Figure 4-8: Activity Centers and Land Uses

Posted Speed

A majority of Paso Robles' streets (88%) have posted speed limits of 25 miles per hour (mph). These streets are followed – in quantity – by streets with posted speed limits of 45 mph (5%), and those with posted speeds of 40 mph (2%). The remainder of streets are distributed throughout various speed limits at less than 1%.

Though the vast majority of Paso Robles' streets are low-speed, they are frequently confined within "superblocks", defined by higher speed arterial streets. For cross-city travel by bike, this renders the network of 25 mph streets disjointed and makes higher speed arterials the only option.

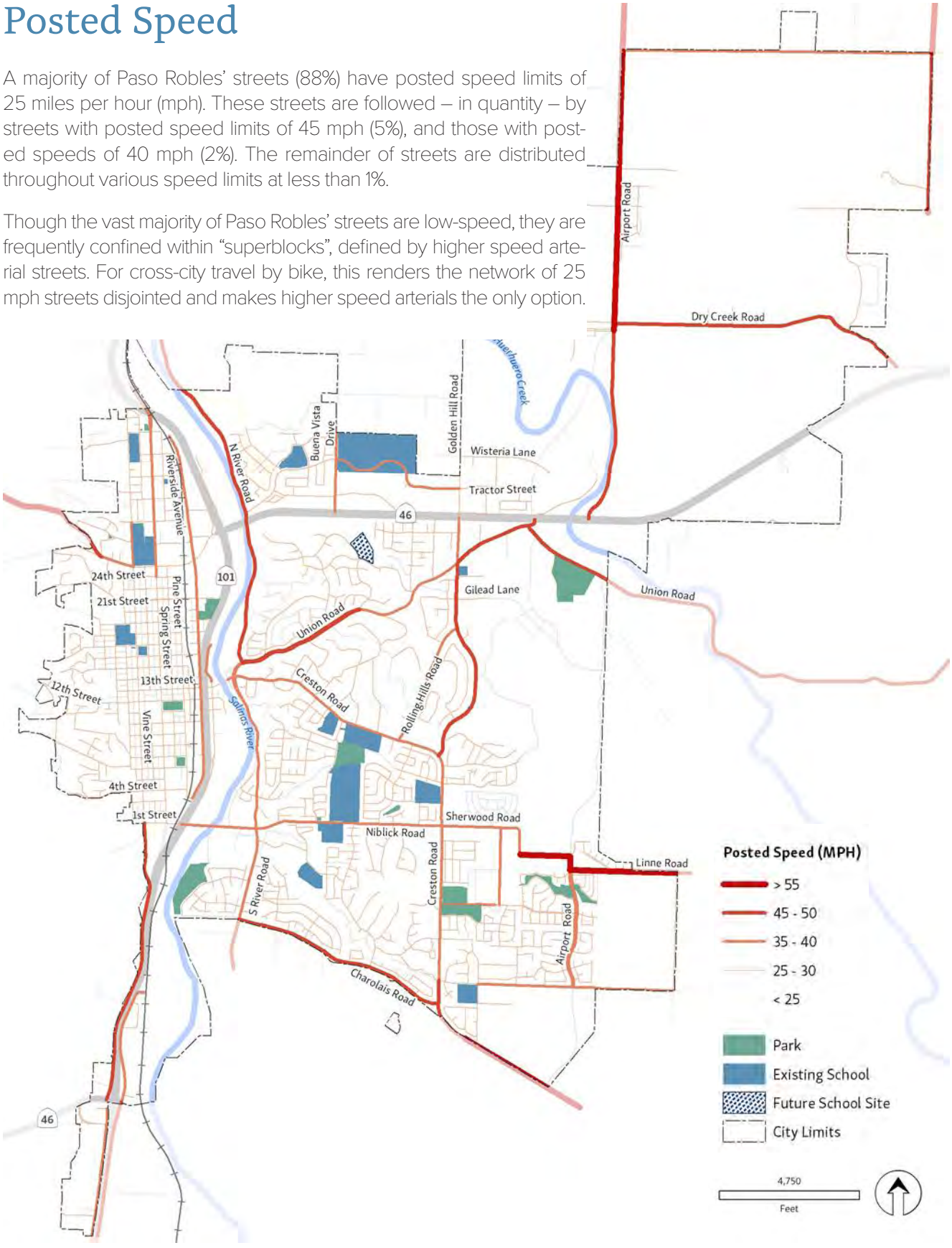


Figure 4-9: Posted Speed

Transit Routes

Paso Robles' transit system is concentrated in the western and southern portions of the city. Service to this area makes sense because of nearby shopping, schools, parks and State Highway 101. Paso Robles is also served by Amtrak by way of the North County Transit Center. As bicycle facilities and transit service are known to support one another (with bicycling helping to make "first mile/last mile" connections and transit helping to cover longer distances) the two should be co-located to maximize the use of both.

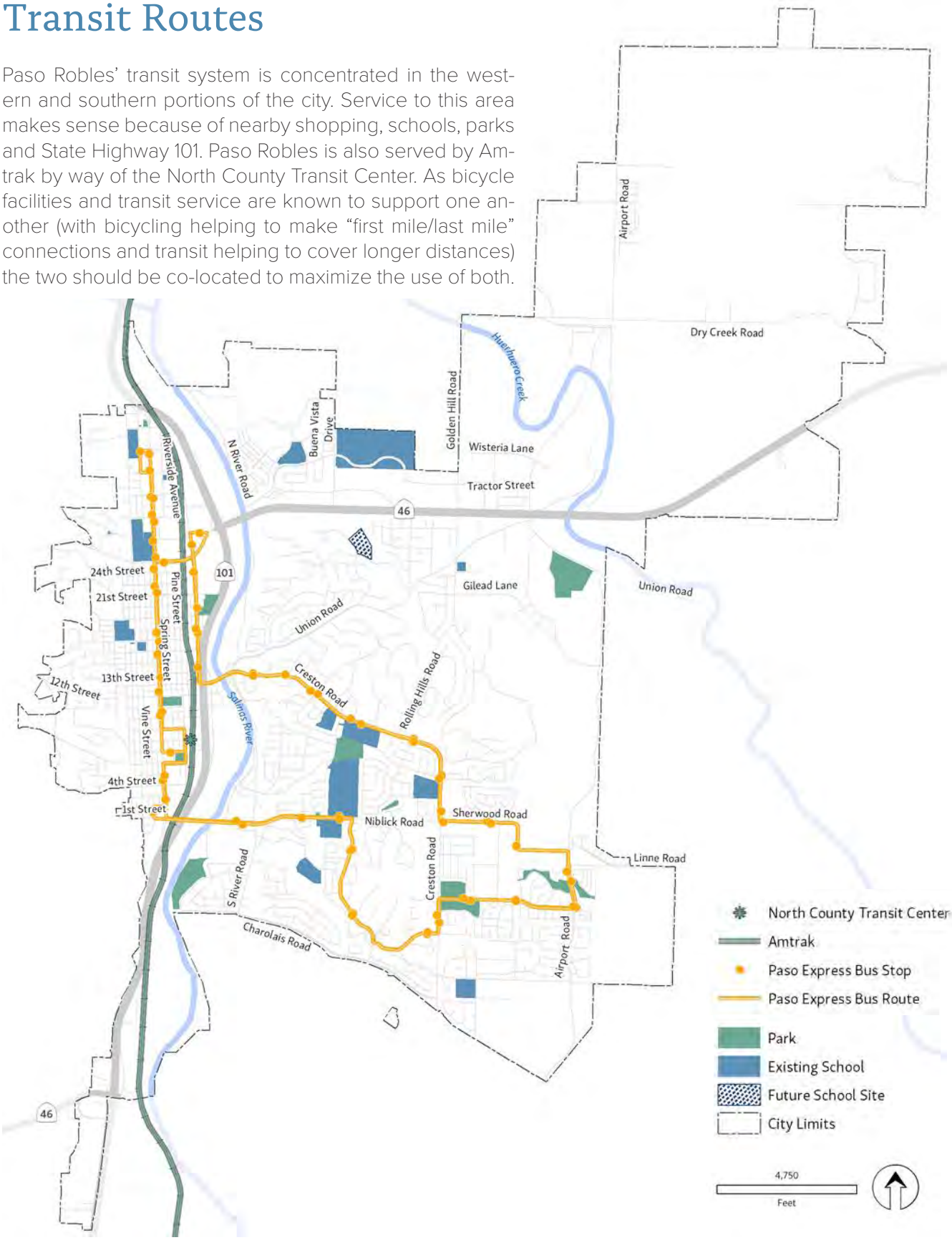


Figure 4-10: Transit Routes

Safety Analysis

Bicycle and pedestrian collision data were obtained from the Statewide Integrated Traffic Records System (SWITRS) collision data set managed by the California Highway Patrol (CHP). This dataset captures all reported bicycle-vehicle, pedestrian-vehicle and bicycle-pedestrian collisions that resulted in injury or property damage in Paso Robles from 2011 through 2015. Collisions on off-street paths are not reported in the data. It is important to note that collisions involving bicyclists are known to be under-reported, and therefore bicycle collisions are likely under-represented.

During this five year period, there were 31 bicycle-vehicle collisions and 21 pedestrian-vehicle collisions reported. Of all reported bicycle and pedestrian collisions during this time period, no collisions resulted in a fatality. Over the five year period cited, bicycle collision counts rose steadily, with a high of 9 occurring in 2015. Pedestrian collisions also rose between 2011 and 2014, but saw a sharp decrease in 2015. The cause of these fluctuations is unknown.

Bicycle collisions by time of day were distributed throughout the day, showing peaks coincident with traditional rush hour patterns (6am-9am and 3pm-6pm). Bicycle collisions stayed relatively high through 9pm indicating possible lighting issues. Pedestrian collision activity was also dispersed throughout the day with the highest value recorded between 3pm and 9pm. The trends are likely caused by poor visibility and higher traffic volumes during these time periods. In terms of location, the most problematic street was Spring Street, with 8 reported collisions in the five-year period studied. Creston Road and Pine Street followed with 5-6 collisions reported, as shown in Figure 4-13.

The two overwhelming causes of reported bicycle-related incidents were “Wrong Side of Road” and “Improper Turning,” with counts of 10 and 5 respectively. The lane choice incidents indicate improper behavior by bicyclists, while the turning behavior indicates improper behavior by drivers. A very small percentage of reported bicycle collisions, roughly 6 percent, resulted in severe injuries. The remainder of collisions resulted in complaints of pain or other visible injuries.

Figure 4-11: Pie Chart of Collision Severity

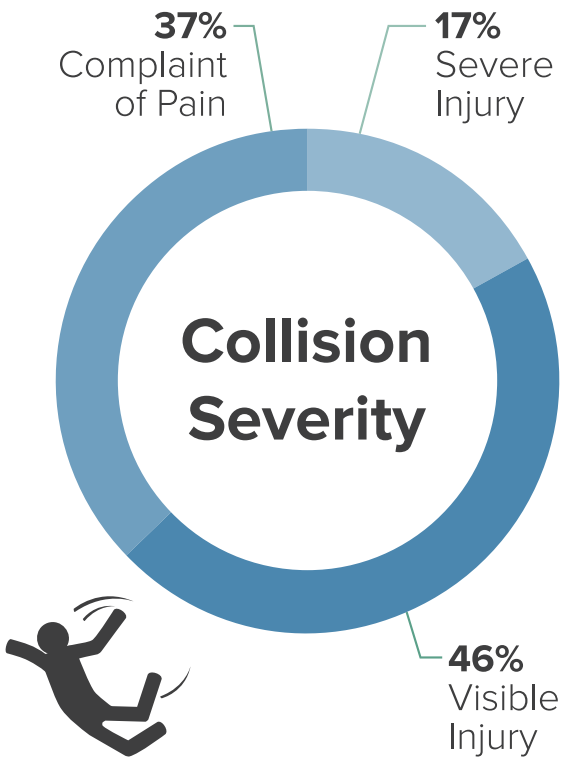
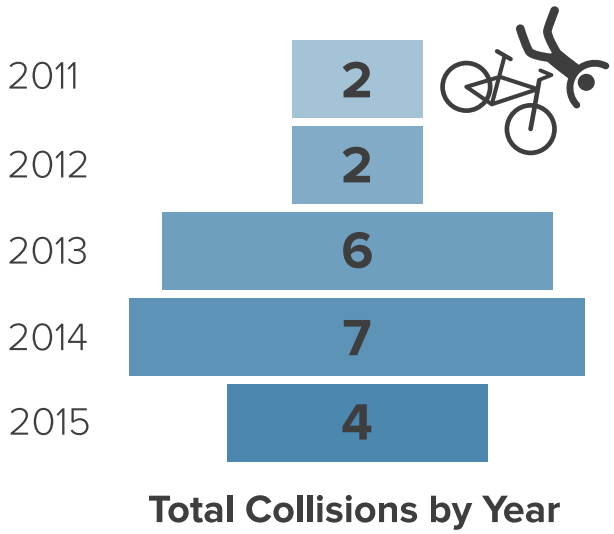


Figure 4-12: Funnel Chart of Total Collisions by Year



The primary causes of pedestrian collisions were "Pedestrian Violation" and "Pedestrian Right of Way" with counts of 11 and 5, respectively, indicating pedestrians were frequently found to be at fault. A larger percentage of reported pedestrian collisions, approximately 33 percent, resulted in severe injuries, with the remainder reporting complaints of pain or other visible injuries.

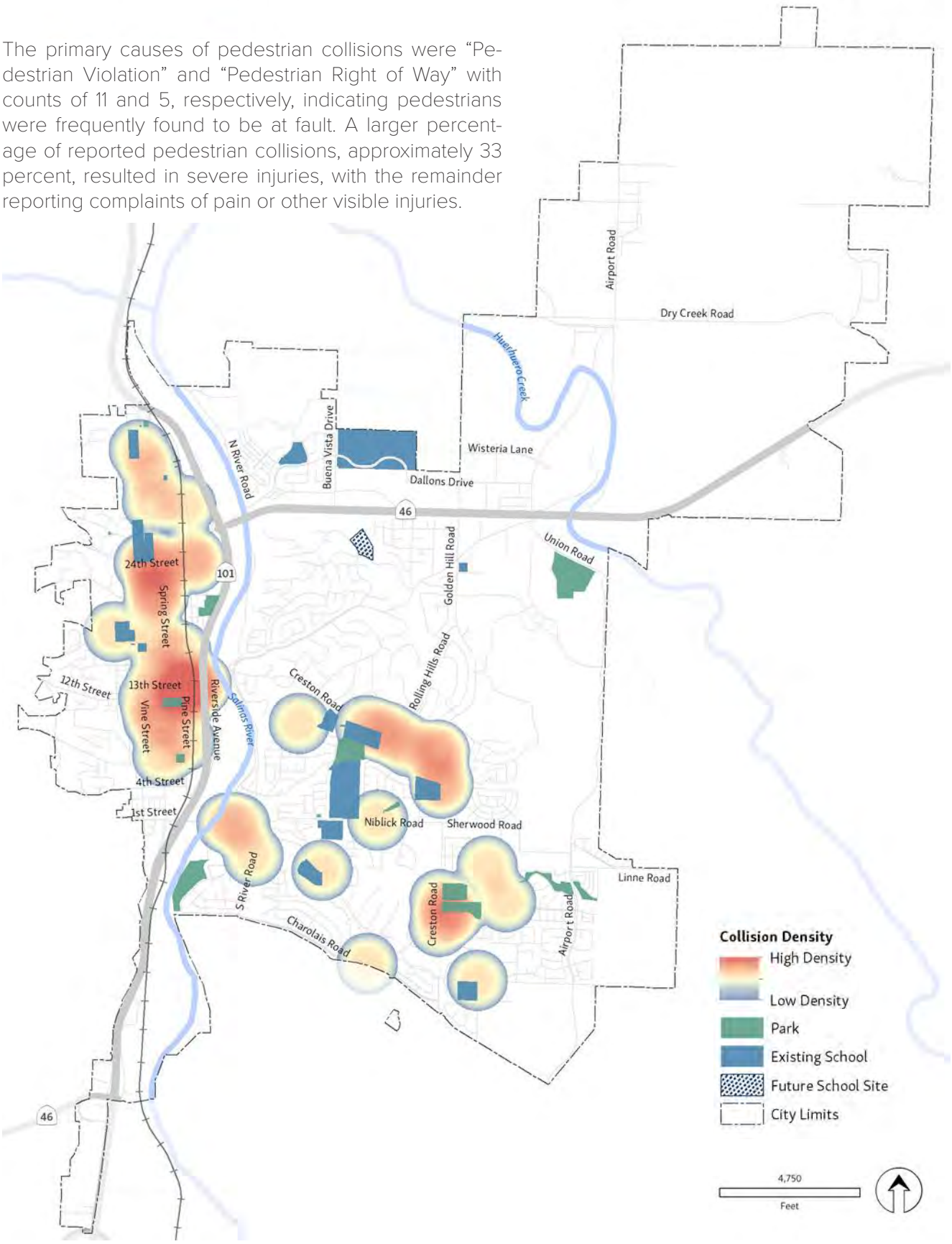


Figure 4-13: Collision Density

Bike-Ped Propensity Model

To help define study focus areas, a Geographic Information Systems (GIS) model was created to reveal relationships between the many factors analyzed. A Bicycle-Pedestrian Propensity Model (BPPM) was developed, considering all of the previously discussed analysis inputs, to establish where bicyclists and pedestrians are most likely to be, either currently or if improvements were to be made. The BPPM is comprised of three submodels: Attractor, Generator and Barrier Models. These three sub-models are then combined to create the composite Bicycle-Pedestrian Propensity Model.

Attractors are activity centers known to attract bicyclists and pedestrians. Examples are schools, transit stops and shopping centers. Generators are developed from demographic data and address potential pedestrian and bicyclist volume based on how many people live and work within the study area. Examples of generators are population density, employment density, primary mode of transportation to work and vehicle ownership. Barriers are features likely to discourage or detract people from bicycling or walking. These are generally physical limitations, such as areas with high numbers of bicycle-related collisions, high vehicle volumes and speeds, and missing sidewalks.

The resulting maps (Figure 4-14 and Figure 4-15) were employed to develop general recommendations and to select priority projects described in the following chapter. When comparing the input from public workshops, stakeholders, and project surveys, there was correlation between the high propensity areas for bicycling and walking with input provided.

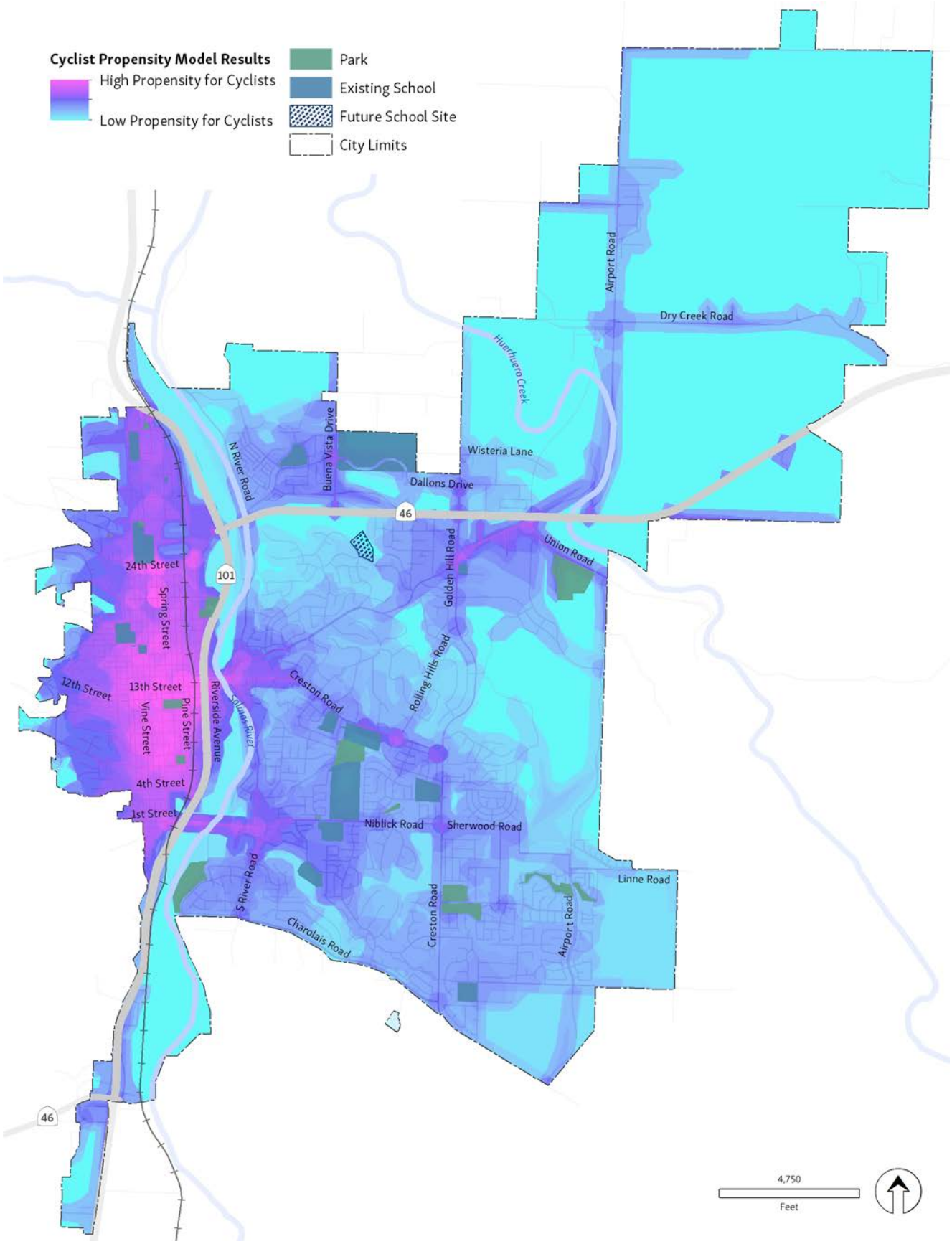


Figure 4-14: Cyclist Propensity Model

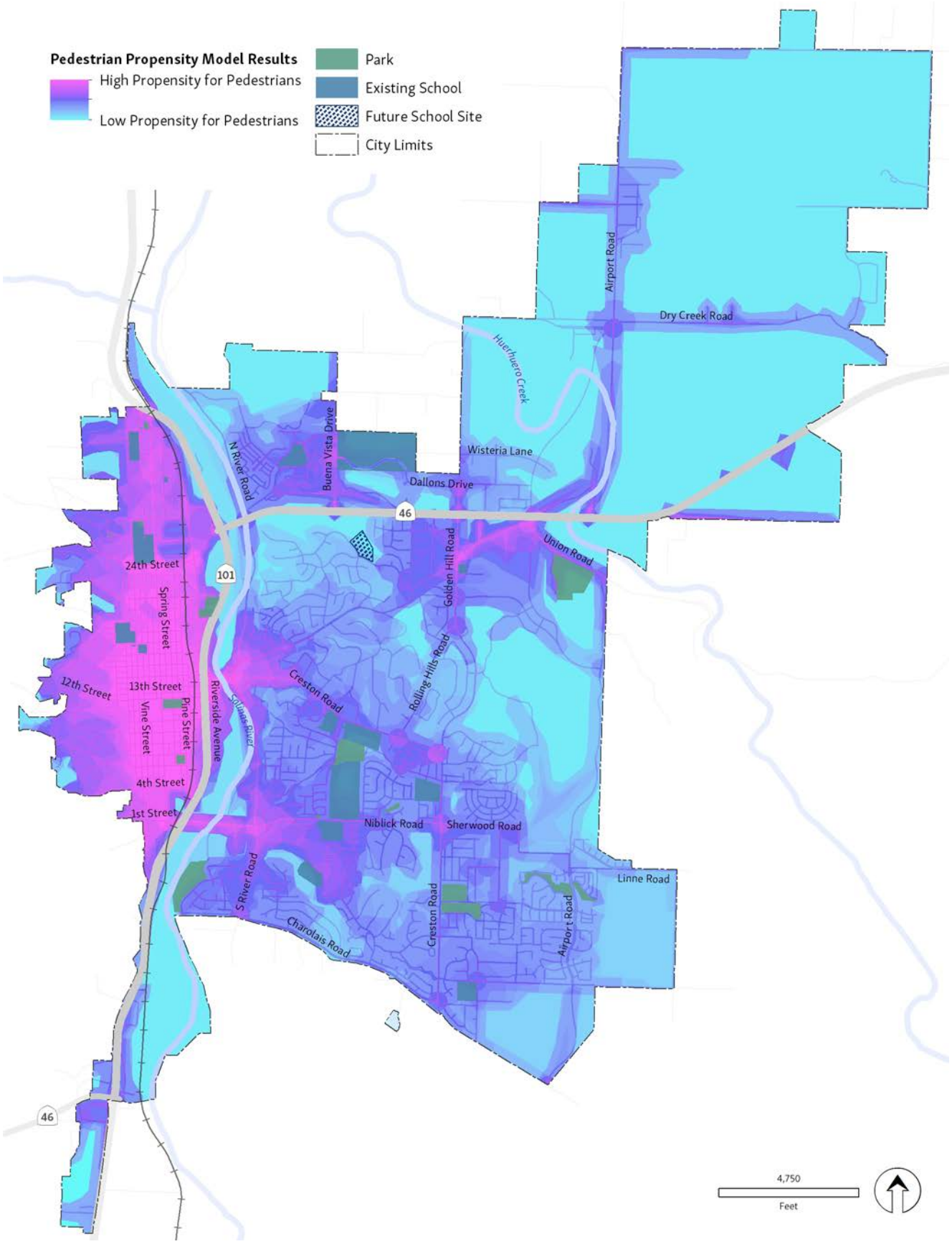


Figure 4-15: Pedestrian Propensity Model

Bicycle Parking Plan

City codes now require bike parking facilities for public or private development. This Plan includes specific actions to develop bike parking regulations for new development. Since bike parking is currently not required by City regulations, there are very few bike racks in the City as a result of regulations. However, Paso Robles Main Street, in cooperation with Lions Club have installed over 20 bike racks in the downtown area. Previously there were only five bike racks in downtown including: (3) at Library/City Hall; (1) at the County Courthouse; and (1) at a downtown business. Citywide there are bike racks at City pool facilities, Walmart, Albertsons, and a fitness center.

To implement an "end-of-trip" bike parking strategy, a Downtown Bike Parking Plan is included in this plan which identifies locations to install 30 public bike racks in the downtown core. See Bike Rack Parking Plan, Figure 4-16. Additionally, new bike racks will be installed at the City's Multi-Modal Station to accommodate bike commuters using other modes of transportation, such as transit and the train. Also, all City and regional transit facilities include bikes racks on buses. Additional bike racks will also be installed at all City pools and parks.

Bike Rack on 13th Street

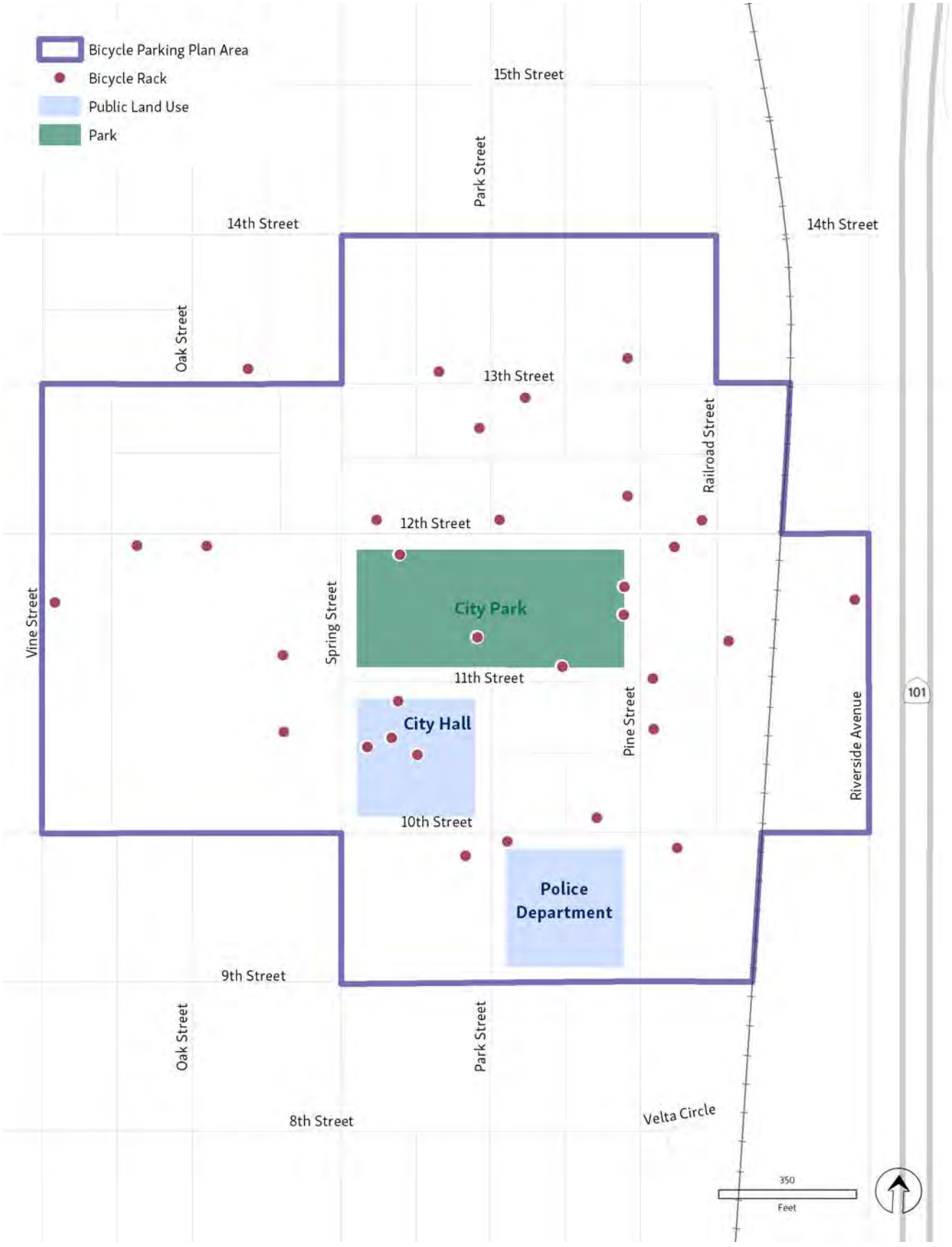


Figure 4-16: Bike Rack Parking Plan

5

Implementation Plan

Implementation Overview

The Bicycle and Pedestrian Master Plan aims to improve connectivity, access, comfort, and safety for all users. This chapter identifies projects that include both new corridors and improvements to existing bicycle and pedestrian facilities. The proposed projects would significantly improve the City's non-motorized transportation network by closing major bicycle and pedestrian gaps, providing continuous protected facilities along major thoroughfares, and improving connections to important destinations such as schools, parks, downtown, employment and retail centers.

The City recognizes that improving bicycling and walking facilities will require a multi-faceted approach consisting of a complimentary menu of recommended bicycle projects, programs, changes to existing standards, codes and policies. This chapter also outlines several federal, state, and local programs that can be adopted by the City to improve non-motorized transportation.

Recommended Bicycle and Pedestrian Projects - Criteria Analysis

The proposed projects in this chapter are a combination of previously planned (but not yet implemented) from the 2009 Bicycle Master Plan and newly recommended bicycle and pedestrian facilities, all subjected to the same ranking criteria. Particular consideration was given to land uses that would be better served with improved bicycle and pedestrian attractions. Previous planning efforts, public events, two workshops, surveys, and stakeholder meetings helped identify new projects or improvements to existing facilities.

The proposed projects form a comprehensive, low-stress network, including bicycle facilities on every major (arterial) street and several smaller (local) streets. The Plan recommends a total of 55 bike projects that equate to 37 miles of new bikeways. Of these, 30 percent are multi-use paths, 19 percent are standard bike lanes, 6 percent are buffered or green bike lanes, 39 percent are marked bike routes, and 6 percent are bike routes with sharrows. New Class I routes are planned along the Salinas River to provide better connections and also to provide recreational opportunities in a safe, off-street environment.

All projects were ranked according to cumulative scores derived from the following criteria that address both geographic and demographic characteristics:

Geographic Characteristics

1. **Attractors:** this criterion addresses points of interest and destinations that people would be likely to visit, also called attractions. The number of parks, public facilities, bus stops and retail facilities within 500 feet (the average length of a city block) of the identified project alignment are totaled and those with a higher point value receive a higher overall score. Data for this attribute came from the City of Paso Robles' land use GIS layer.

2. **Wineries and Hotels:** this criterion addresses connectivity to wineries and hotels; features unique to the City's character. The number of wineries and hotels within 500 feet (the average length of a city block) of the identified project alignment are totaled and those with a higher point value receive a higher overall score. Accounting for wineries and hotels separate from other attractors will allow a unique weight to be applied; distinguishing these unique attractors from the more common types. Data for this attribute came from the City of Paso Robles' land use layer and SLOCOG's Employment Development Department GIS database.

3. **Schools:** this criterion addresses the number of schools along the project corridor. Schools within quarter-mile of the identified project alignment are counted, then totaled and those with a higher point value receive a higher overall score. Data for this attribute came from the City of Paso Robles' schools GIS layer.

4. **Reported Collisions:** this criterion addressed safety through five years of collision data, normalized by collisions per mile of recommended facility. The dataset used to measure collisions per mile was derived from the California Highway Patrol's Statewide Integrated Traffic Records System (SWITRS).

5. **Freeway Crossings:** this criterion addresses the number freeway crossings along the project corridor. Crossings within 500 feet of the identified project alignment are totaled and the segments with a higher number of crossings receive a higher weight as major crossings are a hindrance to a safe and viable pedestrian route and therefore need facilities to help keep pedestrians safe. Data for this attribute was created by KTUA using aerial imagery and street centerlines obtained from the City of Paso Robles.

6. **Gap Closure:** this criterion addressed potential sidewalk connectivity improvements by evaluating each recommended facility's overall contribution to system completeness. Data for this attribute was created by KTUA using aerial imagery to first identify missing sidewalks, then classify their role in network connectivity. Segments that close gaps in an existing sidewalk facilities receive a score of 3; upgrades to facilities that widen sidewalks or add parkway strips receive a score of 2; and new sidewalks or crosswalks that connect existing and proposed sidewalk facilities receive a score of 1.

7. **Safe Routes to School Corridor:** this criterion addresses corridors that are part of the SLOCOG Safe Routes to School Plan. Data for this attribute was created using SLOCOG's Pedestrian Network data and classifying projects based on whether they were included in the SLOCOG SRTS Plan with a total prioritization score ≥ 30 (3 points) or only included in the SLOCOG SRTS Plan (2 points).

8. **Routes of Regional Significance:** this criterion addresses a project's participation in SLOCOG's Routes of Regional Significance network given that SLOCOG is primarily interested in supporting projects which are located along these alignments. Data for this attribute was created using SLOCOG's Routes of Regional Significance GIS layer to classify coincident projects accordingly.

Demographics

The following demographic criteria looks at the total number of specific population segments (the number of people that walk to work, bike to work, take transit work, etc) and divides it by the area generated by either the quarter-mile or average block length buffer to produce a measure of density.

9. **Public Transportation to Work:** this criterion looks at the number of people who use public transit to get to work. By improving access to transit, projects may solve first and last mile issues that may hinder transit use. Data for this attribute was obtained from the US Census Bureau's 2015 American Community Survey Transportation to Work table.

10. **Under 14 Years of Age:** this criterion looks at the number of children under the age of 14. To encourage children to walk and bike to school, proper facilities need to be put in place. Knowing where large populations of children live is important for proper prioritization. Data for this attribute was obtained from the US Census Bureau's 2015 American Community Survey Age table.

11. **Walk to Work/Bike to Work:** this criterion looks at the number of people who walk and bike to work (separated or combined based on project type). Neighborhoods with higher populations of people that walk or bike to work receive a higher priority for improvement, especially if they lack the necessary facilities. Data for this attribute was obtained from the US Census Bureau's 2015 American Community Survey Transportation to Work table.

12. **Household with No Vehicles:** this criterion looks at the number of households with no vehicles. For residents that do not have access to car and rely on public transportation, biking or walking to work and other destinations it is important and providing a safe means to do so is imperative. Data for this attribute was obtained from the US Census Bureau's 2015 American Community Survey Vehicle Ownership table.

13. **Population Density:** this criterion looks at the population density around project corridors. Bicycle and pedestrian facilities are more effective and work best in highly populated areas where there are populations to take advantage of the facilities. Data for this attribute was obtained from the US Census Bureau's 2015 American Community Survey Total Population table.

14. **Employment Density:** this criterion looks at the employment density around project corridors. Bicycle and pedestrian facilities are more effective when they help transport people to work either directly or through a connection to other means of transportation such as transit. Data for this attribute was obtained from the US Census Bureau's 2015 American Community Survey Employment Status table.

15. **City and Stakeholder Priority:** this criterion identify the projects that were in the 2009 Bicycle Master Plan and have yet to be implemented and projects that the public, City and stakeholders identified as corridors they would like to see improvements on. City staff and the stakeholder working group gave projects a high, moderate and low priority based on local knowledge, upcoming CIP projects and other factors. The scoring was then integrated with the data driven criteria.

Recommended Bicycle and Pedestrian Projects

Table: 5-1 lists the proposed bicycle projects with helpful information such as location, facility type, length, extent, and ranking. Figure 5-1 through Figure 5-5 are maps depicting the proposed projects and their relationship to adjacent jurisdictions.

The numbering used to identify projects in the following section does not necessarily imply that the facility should be built first. Bicycle facility implementation has no specific time line, since the availability of funds for implementation is variable and tied to the priorities of the City's capital projects.

This section's list of recommended projects and the associated figures identify their locations and project ranking. If there is desire, recommended projects can be implemented at whatever interval best fits funding cycles or to take into consideration the availability of new information, new funding sources, updated crash statistics, updated CIP lists, etc. The prioritization of these projects combined the use of data driven analysis with City and stakeholder input. A few projects that may have scored low, were moved up due to knowledge of deficiency and need based on community feedback. Bikeway facility prioritization and implementation should be fine-tuned and adjusted accordingly based on future circumstances.

Detailed cost estimates can be found in Appendix E.

Table: 5-1: Proposed Bicycle Projects

Final Ranking	Segment	From (N/W)	To (E/S)	Bicycle Facility Type	Notes
1	Niblick Road	River Road			Intersection striping at Niblick and South River and at entrance to shopping center to improve pedestrian crossing. Also needs similar improvements at Creston and Niblick but is included in the Creston Road Improvements. Green Striping.
2	Riverside Avenue	24th Street	10th Street	Class 2 Green	
3	Appaloosa Driveive/Nickerson Drive - Neighborhood Connection	Creston Road	Niblick Road	Class 3 A	Bikeways (Bike Route) Sharrows and signage.
4	13th Street	Pine Street	Riverside Avenue	Class 2	Sidewalks and striping. Coordinate with Union Pacific.
5	Centennial Trail - Multi-Use Path & Connections	Lana Street	Creston Road	Class 2	Class 2 striping
6	Multi-Use Path	River Road	Snead Street	Class 1	Class 1 Trail.
7	"Nico's" Path	Nicklaus Drive	Old South River Road	Class 1	Will require a creek crossing. This is a very dangerous crossing right now with an exposed washed out pipe. This is a critical path from residential down to Woodland Plaza. Partial funding has been supplied by the Alder Creek Project.
8	13th Street	Vine Street	Pine Street	Class 3	Signage and Sharrows
9	Navajo - Multi-Use Path & Connections	Salinas River Path	River Road	Class 3	Class 3 with wayfinding signage
10	Pat Butler Elementary School Facilities- Nicklaus Street	Niblick Road	Rambouillet Road	Class 2	Class 2 striping
11	24th Street	Spring Street	Black Oak Drive	Class 2	The portion of 24th Street from Riverside to Ysabel is covered in AB1600 fees #25. The section between Riverside and Spring could be class 2, but may be part of an overall plan to widen the overpass. More information is needed on this.
12	Charolais Road	River Road	East City Boundary	Class 3	Signage on South side of road. Class 2 on the north side of the road should be on maintenance list.
13	Vine Street	24th Street	6th Street	Class 2	Green bike lane
14	Pine Street	13th Street	4th Street	Class 3A	Sharrows and Signage
15	Paso Robles Street	Paso Robles Street	Navajo Avenue	Class 2	Striping on Paso Robles Street
16	Railroad Street	14th Street	10th Street	Pedestrian Enhancements	
17	Salinas River Trail	Navajo Avenue	Niblick Road	Class 1	Class 1 Trail. My require retaining walls and or boardwalk approach.

Table: 5-1: Proposed Bicycle Projects (Cont.)

Final Ranking	Segment	From (N/W)	To (E/S)	Bicycle Facility Type	Notes
18	13th Street Bicycle & Pedestrian Bridge	Riverside Avenue	River Road	Class 2	Green lanes and conflict zone painting at intersection. Raise priorities for bicycles at intersection.
19	Riverside Avenue	24th Street	North end of Riverside Avenue	Class 2	
20	Navajo - Bicycle & Pedestrian Bridge	Paso Robles Street	Navajo Avenue	Class 1	Bridge and Class 1 Multi-Use trail. One of two bridges proposed.
21	10th Street	Vine Street	Riverside Avenue	Class 3A	Sharrows and Signage
22	Rambouillet Road	Snead Street	Charolais Road	Class 2	Class 2 striping
23	North River Road	to City limits	Union Road	Class 1	This needs to be looked a very carefully for feasibility. It is shown crossing existing buildings on private property. If we try to build path west of private property we are in the river.
24	Larry Moore Park Facilities	Salinas River Path	River Road	Class 2	Class 2 striping with wayfinding signs
25	Stoney Creek Drive	Creston Road	Rambouillet Road	Class 2	Class 2 striping
26	North River Road	CA-46	Union Road	Class 3	Should include wayfinding signs at both ends. Extend on the map to River Oaks Drive.
27	24th Street	Vine Street	Spring Street	Class 2	
28	Park Street	28th Street	36th Street	Class 3A	Sharrows and Signage
29	Vine Street	24th Street	36th Street	Class 3	Signage
30	Bauer-Speck Elementary Loop	Vine Street	Vine Street	Class 2	
31	34th Street	Oak Street	Park Street	Class 2	
32	Ramada Drive	CA-46 W	Salinas Connection	Class 2	Need to look at the connections to Ramada. Existing shows crossing private property to get to Ramada. Would need an easement. Connect to the end of Ramada and go through the Firestone Walker property. Would require and easement. Need to have a Design Standard for the trail. Need to assign 14A to trail and 14B to Ramada. Ramada could perhaps be Class 2 but there are a lot of cars parked there most of the time.
33	28th Street	Vine Street	Railroad	Class 2	
34	24th Street	Vine Street	Western City Limits	Class 3	
35	Buena Vista Drive	Experimental Station Road	CA-46	Class 3A	Sharrows and signage

Table: 5-1: Proposed Bicycle Projects (Cont.)

Final Ranking	Segment	From (N/W)	To (E/S)	Bicycle Facility Type	Notes
36	Commerce Way	Sherwood Road	Scott Street	Class 2	
37	36th Street	Park Street	Vine Street	Class 2	
38	Meadowlark Road	Creston Road	Beechwood	Class 2	
39	Beechwood Specific Plan	Meadowlark Road	Creston Road	Class 1	Class 1 Trail part of Beechwood Specific Plan. Review with current project concept plans. May be a Developer responsibility.
40	Bicycle & Pedestrian Bridge	Salinas River Trail	Riverbank Lane	Class 1	
41	16th Street	Vine Street	Spring Street	Class 2	
42	Airport Road	Dry Creek Road	CA-46	Class 3	There is no reason to make this full section Class 2, particularly with Wysteria Lane being Class 2. Destino Paso is conditioned to provide buffered Class 2 bike lanes in front of the project and a gravel path on the other side of the street. North of the Destino Paso should probably be Class 3.
43	4th Street	Vine Street	Spring Street	Class 2	
44	Golden Hill Road	Signal	CA-46	Class 3A	Bikeways (Bike Route) Sharrows and signage.
45	Salinas River Trail	Riverbank Lane Bicycle & Pedestrian Bridge	Southern City Limits	Class 1	Need to look at the connections to Ramada. Existing shows crossing private property to get to Ramada. Would need an easement. Connect to the end of Ramada and go through the Firestone Walker property. Would require and easement. Need to have a Design Standard for the trail. Need to assign 14A to trail and 14B to Ramada. Ramada could perhaps be Class 2 but there are a lot of cars parked there most of the time.
46	Wisteria Lane	Golden Hill Road	Airport Road	Class 2	The existing portion of Wysteria Lane only needs striping to be Class 2. The rest of 27 is Developer responsibility. It shows trail crossing the river over to the water park. That might be a trail to the back entrance of the Water Park but it is not a public trail.
47	Buena Vista Drive	Dallons Drive	Buena Vista Drive	Class 3	
48	Huerhuero Creek Trail	Golden Hill Road	CA-46	Class 1	

Table: 5-1: Proposed Bicycle Projects (Cont.)

Final Ranking	Segment	From (N/W)	To (E/S)	Bicycle Facility Type	Notes
49	Airport Road, Tower Road, Jardine Road, Beacon Road, Aerotech Center Way	Dry Creek Road	Dry Creek Road	Class 3	Signage
50	Olsen Ranch	Linne Road	Meadowlark Road	Class 1	Main arterial through Olsen project as Class 1. The path on the exterior of the project should be 48B- Class 3
51	Fontana Road and Linne Road	Sherwood Road	Hanson Road	Class 3	Class 3 bike lanes. Part of Chandler Development. May be a Developer responsibility.
52	Golden Hill Road	Cava RV Park	Huerhuero	Class 1	Multi-use Bike Path, signage
53	Scott Street	Airport Road	Olsen Property	Class 2	Scott Street from Commerce to Airport has recently been striped.
54	Golden Hill Road	Wysteria Lane	Cava RV Park	Class 2	Golden Hill Road ends at the Cava RV resort. It is then a gated private road. Part of Golden Hill Road on the west side is the County. May require widening for bike lanes.
55	Chandler Ranch Specific Plan Area Bike Improvements -Sherwood Road	Golden Hill Road	Chandler Ranch	Class 1	This is planned to be a Class 1 Multi-Use path. Preliminary design by Wallace and intended to be included in AG1600. Coordinate that cost estimate includes the Class 1 path.

Figure 5-1: Proposed Bicycle Projects Key

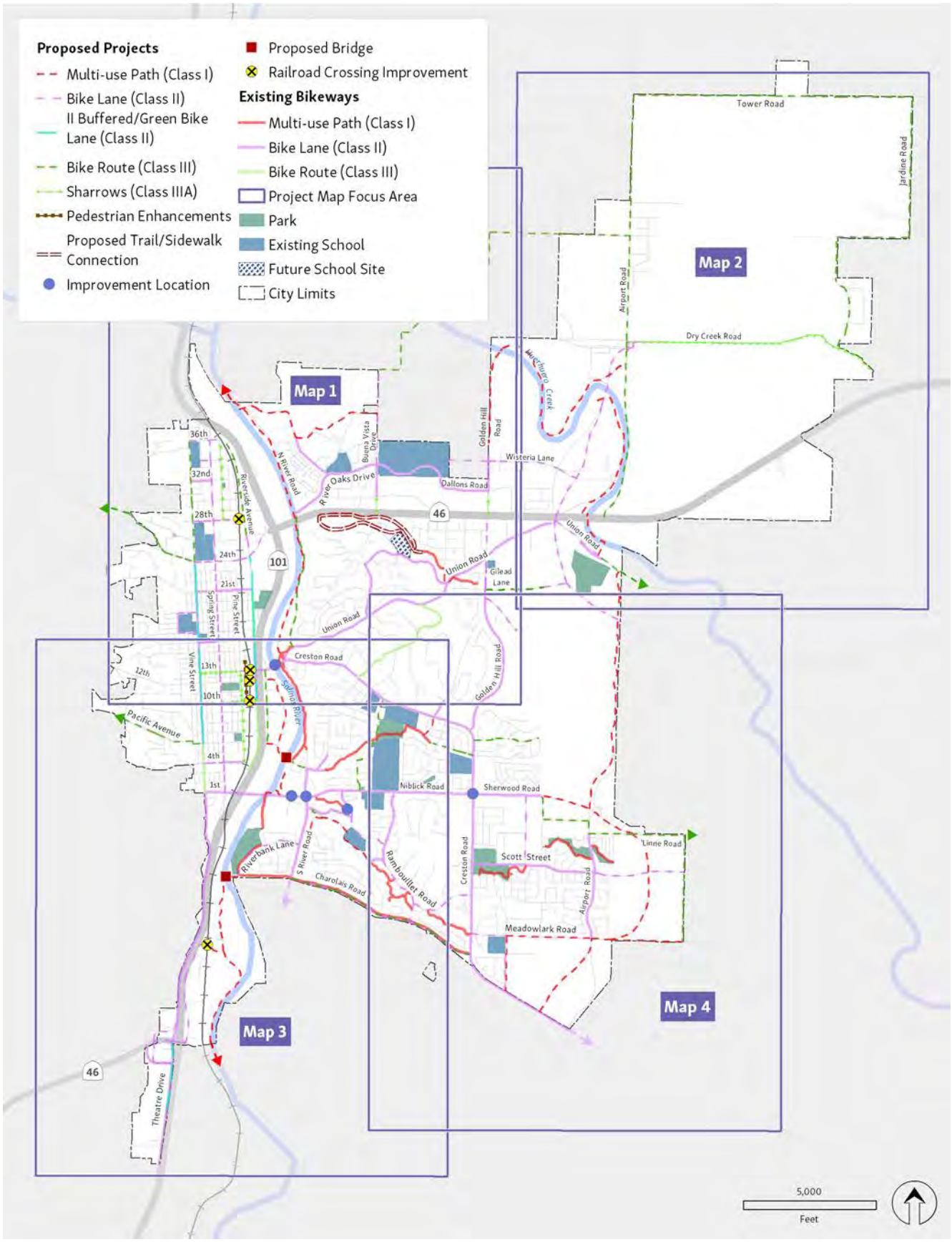


Figure 5-2: Proposed Bicycle Projects - Map 1

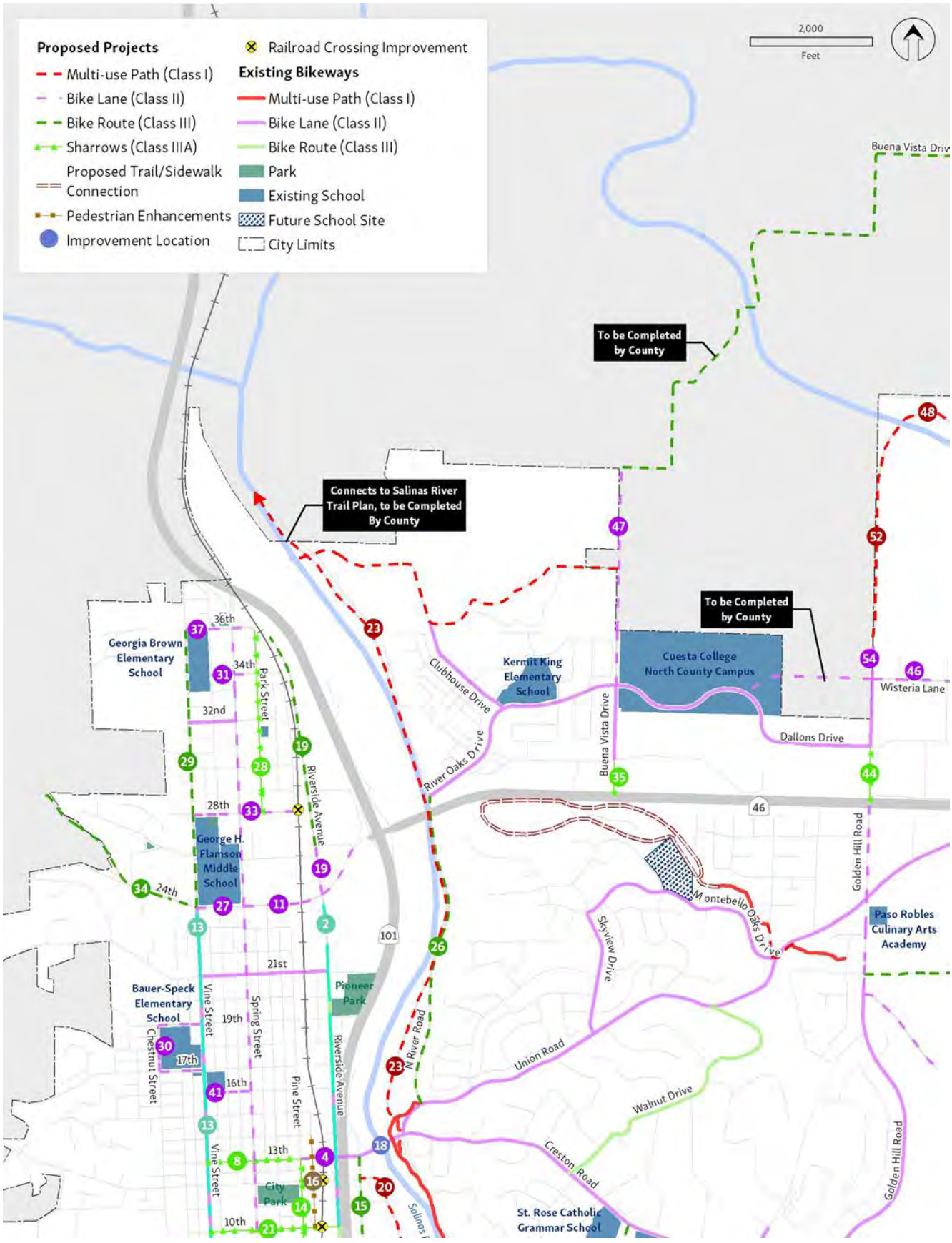


Figure 5-3: Proposed Bicycle Projects - Map 2

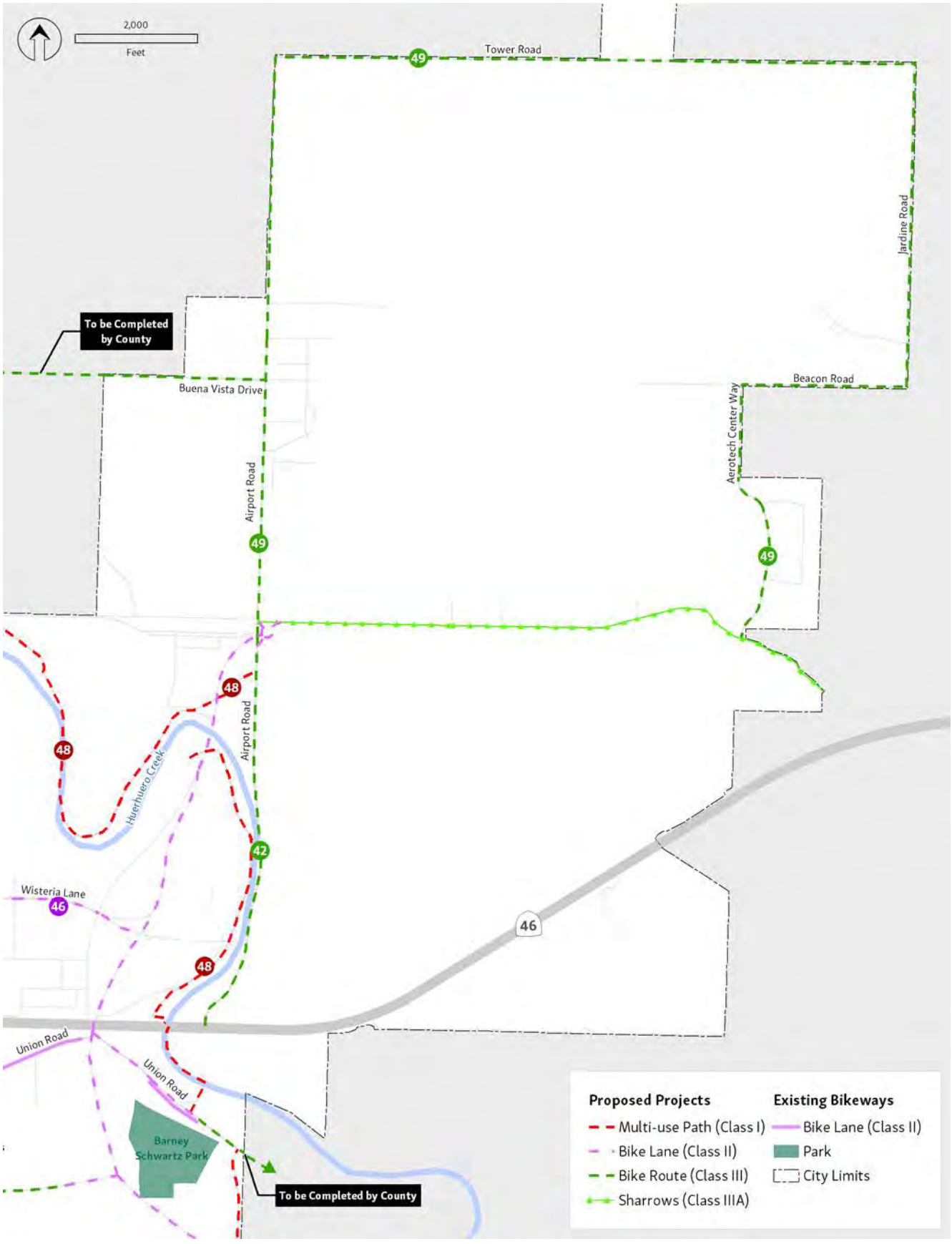


Figure 5-4: Proposed Bicycle Projects - Map 3

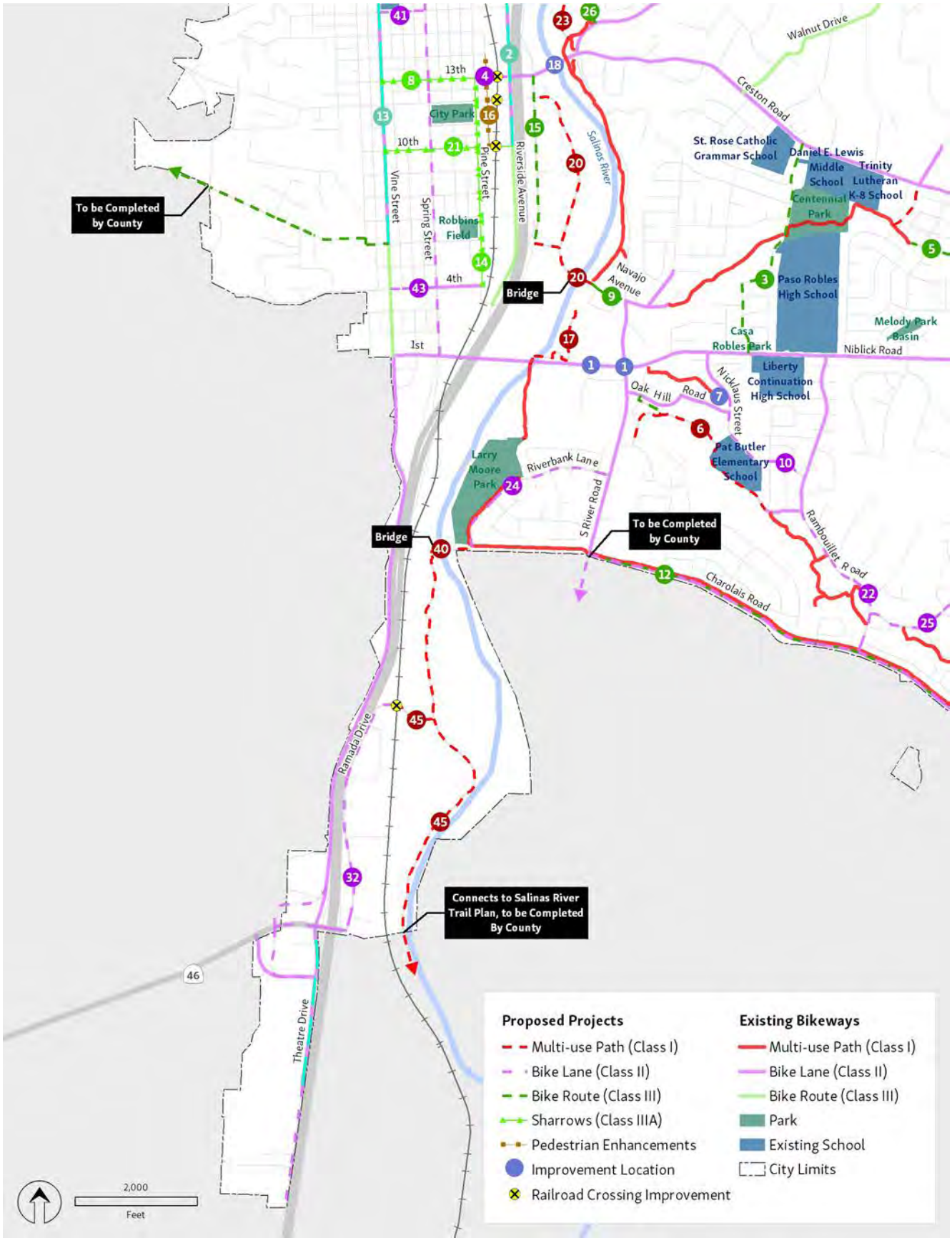
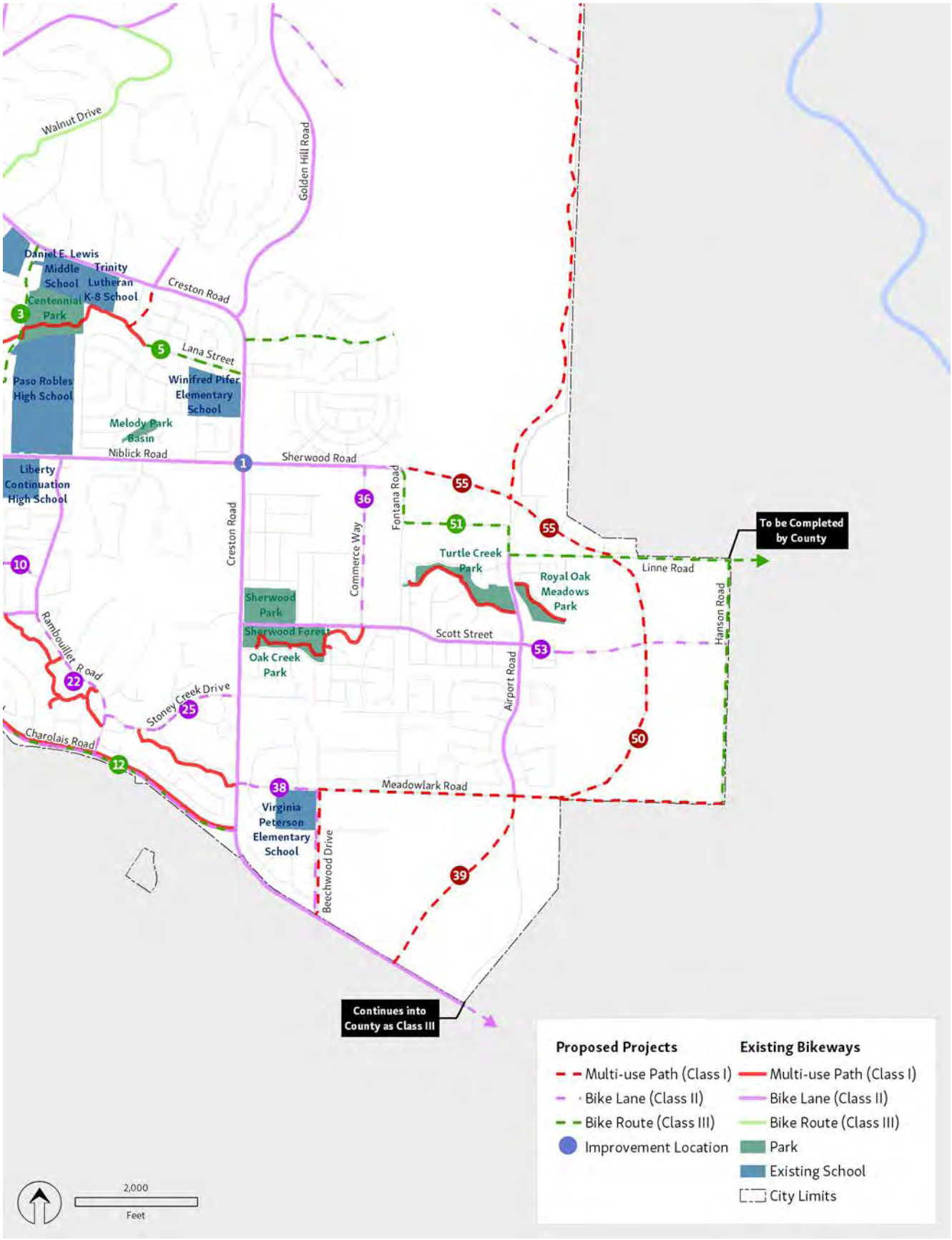


Figure 5-5: Proposed Bicycle Projects - Map 4



Improvements to Existing Bicycle and Pedestrian Facilities

Based on public input and field review, the following are improvements recommended for existing bicycle facilities.

Multi-use Paths

Add additional wayfinding and lighting, especially in heavily used sections of multi-use trails. Along heavily used segments, a centerline stripe is recommended to identify right-of-way travel for all users.

Bicycle Lanes

Whenever repaving projects or traffic signal upgrades occur, install bicycle detector loops per CA MUTCD requirements.

Potential Separated Bikeways / Cycle Tracks

Statewide guidelines have officially designated separated bikeways, or cycle tracks, as Class 4 bikeways. Wherever possible, bike lanes can be converted to separated bikeways.

Other Bicycle Facilities

Integration of this plan into the surrounding transportation and transit network improves the user experience by providing intuitive, safe and recognizable routes connecting active transportation and transit networks. Providing infrastructure for a broad range of users and mobility devices establishes a set of best practices for the development of a complete bicycle and pedestrian network. The overarching goal of a bicycle master plan is to safely provide active transportation infrastructure to persons at all levels of bicycling ability.

Improving bicycle access to transit helps to expand the sphere of influence for both bicyclists and transit users, and can improve the transit rider and active transportation user relationship. A layered network enhancement of transit station area improvements allows for a connected multi-modal transportation network. Improvements will be guided by a set of best practices as they apply to transit stops and stations, bicycle facilities and associated pedestrian improvements.

Access Improvements for Transit

The improvement of access for bicycles and pedestrians to transit stations and stops should be centered on two overall goals:

Decreasing the average travel time of bicyclists and pedestrians accessing transit - This is achieved by decreasing wait times at intersections and by increasing speed and capacity along bicycle routes. Bicycle and pedestrian prioritized signal timing improvements decrease waiting times with the provision of improved bicycle facilities increases the average user's speed and enhanced crosswalks to improve pedestrian visibility.

Decreasing point-to-point distances - This is achieved through the utilization of strategic shortcuts and increased street crossing opportunities. Utilize and improve the off-street routes through utility easements and parks where mid-block crossings can be used to significantly reduce point to point distances.

SLOCOG Safe Routes to School Program

The Safe Routes to School (SRTS) is a national and international movement that aims to increase the number of children walking and bicycling to school by making it safer for them to do so. The primary goal of the SLO County SRTS program is to educate and empower schools and communities on safety using data, as well as to encourage students and their families to change their commuter habits by utilizing active transportation choices.

After funding for Safe Routes to School was consolidated into the Active Transportation Program (ATP), it is no longer completely segregated by region. Schools in San Luis Obispo County must now compete against projects located in larger urban areas. In order to be competitive against schools located in urban areas with higher bicycle and pedestrian collisions and fatalities, it is necessary to employ comprehensive data that shows the high risk of injury for students who walk and bike.

Based on this information, a Safe Routes to School Infrastructure Inventory (SRTSII) was produced by Rideshare, a SLOCOG division. This inventory is meant to give each school in the area a data profile that aides the jurisdictions in the county to compete for dollars towards infrastructure improvements. Rideshare plans to apply for ATP funds to continue to expand the coverage of the SRTSII data collection, as well as to create an overarching Regional SRTS Strategic Plan. This plan includes both non-infrastructure and infrastructure projects in the region in a high-level, strategic document that provides deeper support and clearer standards for the member jurisdictions' Public Works and Planning Departments.

The SRTSII shows the need for more or improved walking and biking amenities at a given school site by prioritizing improvements through a systematic process that weighs various forms of quantitative and qualitative evidence including: vehicle and pedestrian counts, Transportation Injury Mapping System (TIMS) collision data from 2003 – 2011, surveys of the physical infrastructure surrounding a school, obesity data, speed data, and assessment of allegorical data from parents and crossing guards at each school site. Tools, like an Inventory Survey and Mapping Legend, were developed to assess key street-level features surrounding a school. A vehicle count form was created by Rideshare to track the number of cars, pedestrians and bicyclists around primary and secondary entrances to schools at the start and end of school days. Additionally, the County worked with the SRTS Taskforce partners to collect the obesity and speed data needed to round out each profile.

It was determined that up to 30 of the county's over 90 public schools could be inventoried in time. Members from the Technical Transportation Advisory Committee (TTAC) and the SRTS Taskforce were asked to help identify the schools to inventory, which were then divided into tiers. Priority was given to those with highest infrastructure needs (Tier One). Using this feedback, a list of 29 schools were chosen to be assessed. The following list shows the schools in Paso Robles that were selected as part of the SRTS infrastructure inventory. The inventory maps can be found in Appendix D.

Paso Robles schools in Tier 1

Daniel E. Lewis Middle School

Georgia Brown Elementary School

Paso Robles High School

Winifred Pifer Elementary School

Paso Robles schools in Tier 2

Bauer-Speck Elementary School

Flamson Middle School

Kermit King Elementary School

Pat Butler Elementary School

Virginia Peterson Elementary School

For the assessment area, a ¼ mile and ½ mile radius were used based on National SRTS standards and the average layout of streets and sidewalks surrounding school sites in San Luis Obispo County.

A mapping component was also paired with the inventory tool to illustrate bicycle and pedestrian collision points within a ¼ mile and ½ mile radius buffer around each selected school. The maps also indicate signal types, park and recreational facilities, community boundaries, railroad tracks, highways and interstates, geographic barriers, bikeways, and roadways. Existing infrastructure such as roadway signals, informal pathways, school entrance points, and crosswalk signs were also collected and added to the GIS maps.

Continual infrastructure improvements within a ¼ mile radius around a given school, will make more families feel safe having their children walk and bike to school. This trend will have a positive effect on traffic in neighborhoods and on arterials by reducing car traffic, thereby increasing the opportunity for students to walk or bike to school. The result of this change in habit is reduced greenhouse gas emissions around school campuses, reduction in obesity rates, less parking challenges and less traffic impaction on neighborhood streets.

Figure 5-6: Safe Routes to School - North

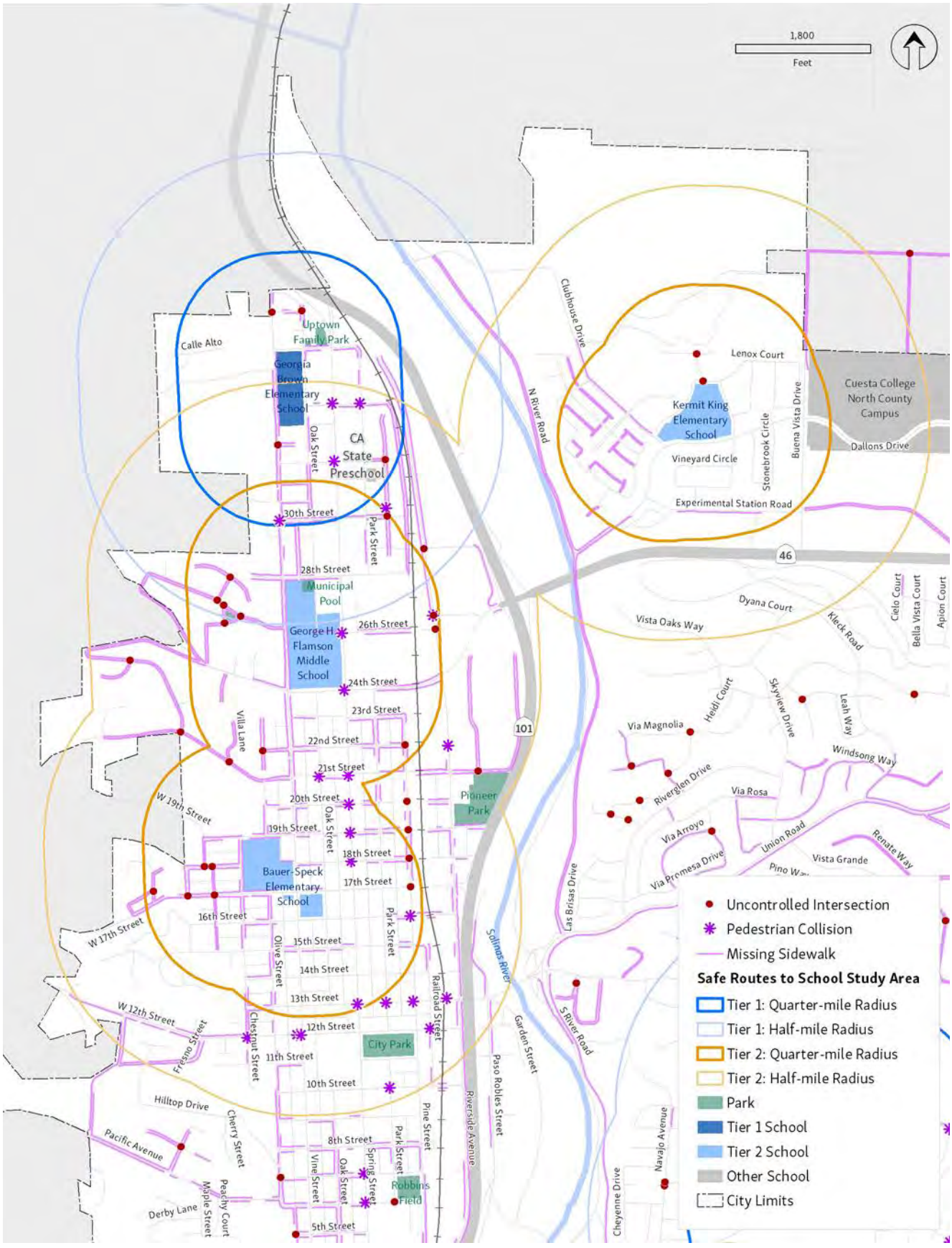
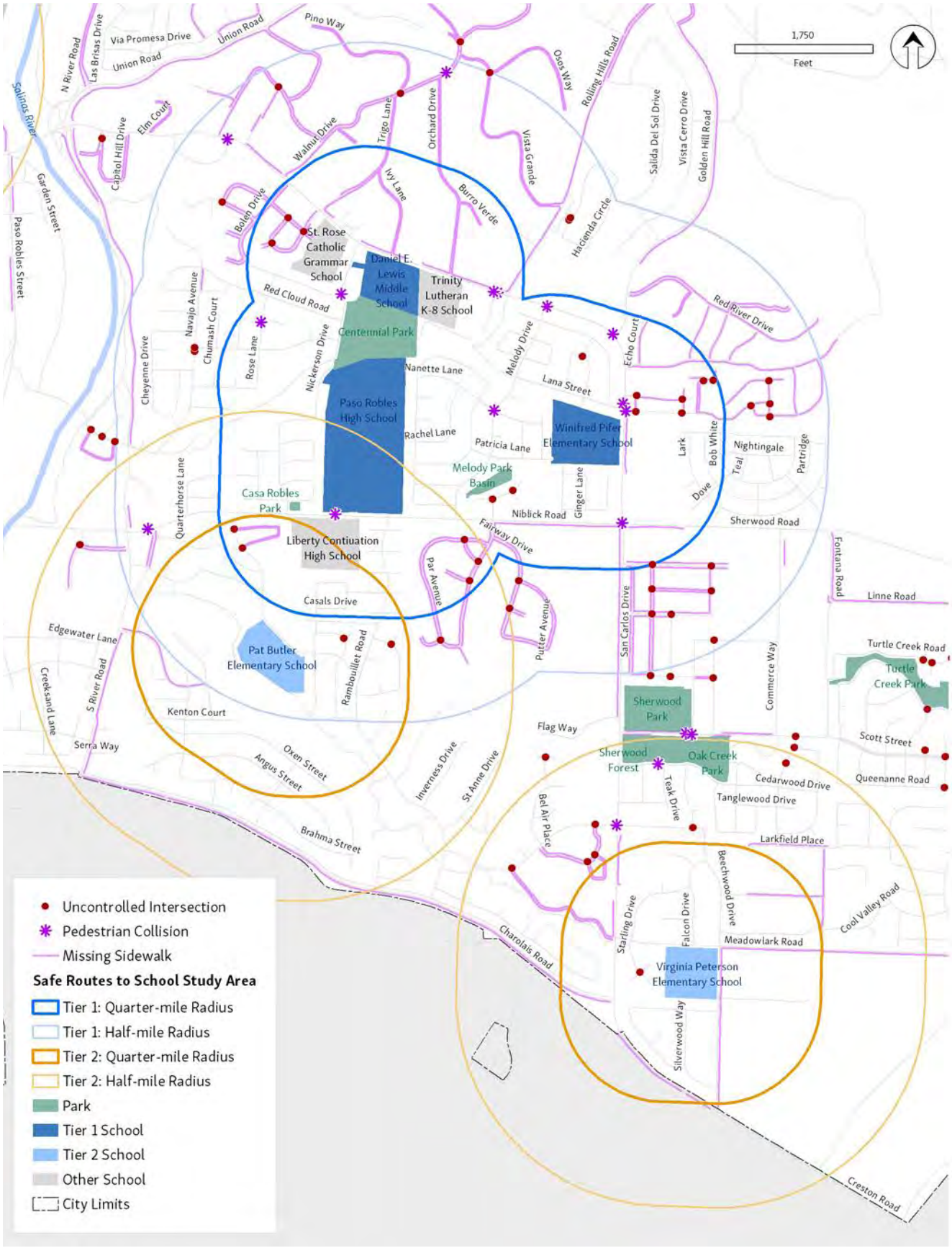


Figure 5-7: Safe Routes to School - South



Programs

This section includes a diverse list of programs intended to support the bicycle and pedestrian projects recommended in this plan. Due to a long history of routine accommodation for pedestrians (i.e. sidewalks, crosswalks, dedicated signals, etc.), programs targeting walking are relatively uncommon. Conversely, the historic lack of routine accommodation for bicyclists has fostered confusion about the role of bicyclists in the overall transportation system and has necessitated an impressive diversity of bicycle-related programs.

Additional background information on the changing "state of practice" in bicycle and pedestrian programming, namely the increased integration of programs and projects is also provided.

Evolving State of Practice in Bicycle Programs

There has been a shift away from the traditional, compartmentalized "Six Es" approach developed by the League of American Bicyclists (Engineering, Education, Encouragement, Enforcement, Equity and Evaluation and Planning), and instead toward a fully integrated and complementary menu of initiatives. By offering a menu of initiatives, rather than a prescriptive list, active transportation programming can more accurately address the existing conditions and desired outcomes of a given context.

In addition to changes in the content and organization of active transportation programs, there has also been a shift in implementation strategies. Programs are increasingly targeted at specific project areas, in conjunction with the construction of bicycle and pedestrian facility projects. The implementation of a capital project represents a unique opportunity to promote a city's active transportation system, cycling, and walking as attractive transportation options. Projects or "Engineering" represent the most visible and perhaps most tangible evidence of a great place for bicycling. The same can be said for walking. A new bicycle facility attracts attention of cyclists and non-cyclists alike. As such, it represents a great opportunity to reach out to the "interested, but concerned" within the neighborhood. Impact to this target group will be strongest by directly linking facility improvements and supportive programs. In this way, bundling bicycle programs with projects represents a much higher return on investment for both.

The programs recommended for the City of Paso Robles are organized as a menu of initiatives, each listed under a broad category:

- Education/Encouragement/Marketing
- Education/Enforcement
- Monitoring and Evaluation

These categories are not definitive. They are merely intended to offer some level of organization to the many program initiatives, most which fall into at least one category.

Existing Programs

Paso Robles is no stranger to bicycle and pedestrian-related programs and events. The City hosts notable events such as the Great Western Bicycle Rally, Cycle de Mayo, Eroica California, and several local walks and runs. These events are all opportunities that allow the City to engage with the community in a topic related to bicycling and walking.

The City also conducts several programs with the help of SLOCOG, Bike SLO County, and North County Cycle Ped. SLOCOG has a team dedicated to developing active transportation related programs and capital projects with all member cities. SLOCOG recently approved the Active Transportation Partnership Program, a "series of work program strategies defined with the intent to bridge the interests and goals of the active transportation community."

Bike SLO County is a nonprofit organization based out of San Luis Obispo that strives to "improve the quality of life in San Luis Obispo County through bicycle advocacy, education, and inspiration." Their county programs include bike education, a bike kitchen, bike valet service at public events, RideWell, and Kidical Mass. North County Peds collaborates with Bike SLO County on bike oriented educational events and weekly rides.

The City of Paso Robles and the Paso Robles Unified School District are also members of the countywide Safe Routes to School Task Force, managed by SLOCOG through its SLO Regional Rideshare program. This group discusses infrastructure and non-infrastructure based programs that impact schools and the community. The task force also allows all members to improve their safe routes to school planning, reduce duplication of efforts, and increase access to resources. This group also provides several services and opportunities to schools that are interested in creating safe and enjoyable transportation alternatives to and from school. As part of SLO Regional Rideshare's Cycle 2 Active Transportation Program (ATP) grant schools in Paso Robles can apply for support in creating a "bicycle track" in their school yard. Bicycle tracks, also known as Traffic Gardens, are street mockups that teach students proper signaling, yielding, and other traffic rules. They provide a safe and interactive environment where students can learn real-life situations at a young age. In order to receive these funds, the school district must provide funding for the slurry and seal of the blacktop and must also be an engaged member of SLO Regional Rideshare's ATP grant that also provides on-bike education through a school's Physical Education curriculum.

Education/Encouragement/ Marketing

Community Bicycle Programs- Bike Kitchens

Community bicycle programs, also known as Bike Kitchens, are commonly formed as grass roots initiatives by community members to provide bicycles, helmets, maintenance and safety instruction to people as a means of expanding their transportation options and providing people better access to work and services. Bike SLO County hosts a bike kitchen out of their San Luis Obispo headquarters.

Paso Robles could support the creation of a Bike Kitchen within its boundaries and leverage its resources in coordination with the bicycle facilities prioritized in the bicycle and pedestrian master plan. This combination will help to encourage an increase in cycling mode share, serve as a missing link in the public transit system, reduce GHG emissions and provide additional "green" jobs related to system management and maintenance. While it is likely infeasible to have a Bike Kitchen for each target area, any local Bike Kitchens and their resources should be marketed within those areas and directed towards target audiences.

Street Smarts Classes and Bicycle Ambassadors

This initiative promotes safe bicycling through community-based outreach, which helps bridge the gap between people who want to start riding and the availability of opportunities to help people learn to bicycle safely. Ideally, these classes would be taught by Bike SLO County, using their Road Skills 101 Workshop, Bike Smart at Work, Bike Smart in Class, and Maintenance Classes. In addition, LCI certified personnel can teach these classes. In addition, the North County CyclePeds organization would collaborate with Bike SLO County to augment and expand their services in Paso Robles.

Participate in Walk and Bike to School Day

This one-day October event in more than 40 countries celebrates the many benefits of safely walking and cycling to school. Walking and rolling to school embodies the two main goals: to increase children's physical activity and to empower parents to make these kinds of healthy choices. SLO Regional Rideshare coordinates registration efforts and provides technical support and resources for Walk to School Day. For more information, go to www.slosaferoutes.org.

Bicycle Safety Class

Helmet Giveaway

Police Bicycle Patrol in Torrence

Participate in National Bike Month

SLOCOG/SLO Regional Rideshare also sponsor National Bike Month in May. Since 1956, communities from all over the country have celebrated National Bike Month as a chance to showcase the many benefits of bicycling as well as to encourage people of all ages and backgrounds to bike more often. The biggest event that takes place during Bike month is Bike to Work day. Local business, nonprofits, and entire city agencies participate by either hosting pit stops where bicyclists can stop to gather healthy food and drinks, or by simply bicycling to work. Paso Robles participates in May Bike Month - Cycle de Mayo event where it showcases bike and pedestrian improvements and plans, and provides bike education through bike rodeos to reach out to school age children.

Education/Enforcement/Equity

Educate All Police Department Staff Regarding Bicycle and Pedestrian Issues and Concerns

If the ultimate aim is to promote cycling as a legitimate form of transportation, all officers should receive some form of bicycle training and should be offered LCI training, if possible. Appropriate training regarding pedestrian issues and solutions should be provided as well.

Designate a Law Enforcement Liaison Responsible for Cycling Issues and Concerns

This liaison would be the main contact for Paso Robles residents concerning bicycle and pedestrian related incidents. This liaison would perform the important role of communicating between the law enforcement agency and cyclists and pedestrians. The liaison would oversee the supplemental education of law enforcement officers regarding bicycle and pedestrian rules, etiquette and behavior. The liaison could also ride a bicycle while on duty and participate in the Regional Safe Routes to School Taskforce. Allocate funding for the training and support of this duty, as well as for necessary bicycle equipment.

Targeted Enforcement

Many law enforcement departments employ targeted enforcement to educate drivers, cyclists and pedestrians about applicable traffic laws and the need to share the road. These efforts are an effective way to expand mobility education. Targeted enforcement should be expanded to warn and educate drivers, cyclists and pedestrians about laws, rules of the road and safe procedures. This could be in the form of a brochure or tip card explaining each user's rights and responsibilities. Targeted enforcement may help mitigate the following traffic safety problems:

- Speeding in school zones
- Illegal passing of school buses
- Parking violations – bus zone, crosswalks, residential driveways, time zones
- Risks to cyclists during drop-off and pick-up times
- Lack of safety patrol/crossing guard operations
- Unsafe cycling and pedestrian practices
- Other school zone traffic law violations

Implement a Bicycle Diversion Program

A Bicycle Diversion Program allows for adult cyclists who commit traffic violations to receive reduced fines in exchange for taking a bicycle education class. On September 21, 2015, California's Governor Jerry Brown signed Assembly Bill 902 to create such a program. This legislation has been touted as a boost for both equity and encouragement in cycling. It is expected to promote equity because, in reducing fines, it effectively makes cycling more affordable. It is expected to encourage cycling by treating violations as opportunities to educate people and impart confidence and skills. AB 902 went into effect on January 1, 2016, but it will be up to each city and its law enforcement department to adopt diversion programs.

Distribute Lights and Helmets to Cyclists

If law enforcement officers observe a cyclist riding at night without the proper reflectors or lights, they may give the cyclist a light along with a note or friendly reminder about the light requirement and its importance. This provides a positive and educational interaction rather than a punitive one. This program could be funded through a safety-oriented grant. Many cities have targeted the end of daylight savings as an ideal time to perform this function.

Helmet giveaway programs are another opportunity for positive education and interaction. Law enforcement departments have conducted public events to hand out helmets, as well as distributing them in the community during patrol when an officer sees a child riding helmetless.

Law Enforcement Referral Process

Design a communication process that encourages students and parents to notify the school and police of the occurrence of a crash or near-miss during school commute trips involving auto, bus, pedestrian or bicycle transportation. Include not only the Police Department, but also the Planning Department and SRTS stakeholders in this reporting system to help better use data generated. Enlist the help of law enforcement with a number of traffic safety duties:

- Enforcement of traffic and parking laws through citations and warnings.
- Targeted enforcement of problem areas – an intensive, focused effort during the first two weeks of school, as well as a strategy for the rest of the year.
- Participation in traffic safety programs: Traffic Garden, SRTS Task Force, etc

Trip Reduction Program for Employees

Paso Robles can work alongside SLOCOG to provide trip reduction programs for employees. SLOCOG currently has a System Efficiency program that targets maximizing the "efficiency of existing transportation system through the implementation of Demand Management, System Management, and Intelligent Transportation Systems." Of these, the Demand Management, also known as SLO Regional Rideshare's Back 'N' Forth Club, is one that the City can implement further with the adoption of this Plan.

The "Back N Forth Club" is a free program that assists employers in educating and encouraging their employees to make alternative commute choices.

As a member of the club, SLO Regional Rideshare will provide multiple tools and assistance to a designated Super Commuter who acts as the lead contact within the City. Funding for Emergency Ride Home, access to online ridematching and incentive management software, and additional marketing collateral are just a few of the free tools provided to members of the Back 'N' Forth Club. . The "Know How to Go" program is an online planner that provides information regarding transportation options based on personal physical mobility capabilities. Finally, SLO Regional Rideshare's 511 program offers real-time traffic information and a multi-modal trip-planning tool (including bike and walking directions) at slo511.org and personalized trip planning Monday-Friday, 8am-5pm by dialing 5-1-1. Collaborating to market these free multi-modal travel tools helps the public better understand their mobility options are not limited to single occupancy vehicle trips.

Monitoring and Evaluation

North County CyclePeds Advisory Committee

The North County CyclePeds (NCCP) group formed out of a prior City Bicycle Pedestrian Advisory Committee (BPAC) to in part, assist the City with implementation of plan projects, policies and programs. The NCCP allows City staff, volunteers and advocates to continue efforts to improve cycling throughout the City. This group acts as a community liaison and addresses issues concerning local cycling and walking. The NCCP can review the implementation and regularly evaluate the progress of improvements in the Bicycle and Pedestrian Master Plan.

Conduct Bicycle and Pedestrian Counts and Review Collision Data

Conduct regular cyclist and pedestrian counts throughout the city to determine baseline mode share and subsequent changes. Conducting counts would allow the City to collect information on where the most cycling and walking occur. This assists in prioritizing and justifying projects when funding is solicited and received. Counts can also be used to study cycling and walking trends throughout the City. Analysis that could be conducted includes:

- Changes in volumes before and after projects have been implemented
- Prioritization of local and regional projects
- Research on clean air change with increased bicycle use

Counts should be conducted at the same locations and at the same times every year. Conducting counts during different seasons within the year may be beneficial to understanding the differences in bicycle and pedestrian traffic volumes based on weather. In addition, bicycle and pedestrian counts should be collected as part of any existing traffic counts. Results should be regularly recorded for inclusion in the bicycle and pedestrian report card.

The Paso Robles Police Department collects and tracks collision data. Reports of traffic collisions should be presented at the Bicycle Pedestrian Advisory Committee. Traffic collisions involving cyclists and pedestrians should be reviewed and analyzed regularly to develop plans to reduce their frequency and severity. Any such plans should include Police Department involvement and should be monitored to determine their effectiveness. Results of the number of collisions should be recorded in the bicycle and pedestrian report card.

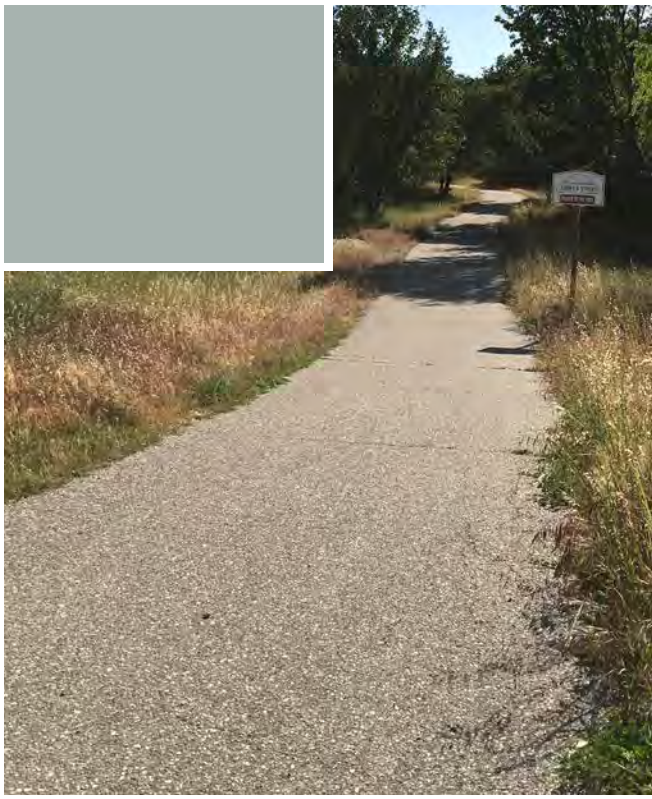
Develop a Bicycle Report Card

The City could develop a bicycle and pedestrian report card, a checklist used to measure the success of plan implementation, as well as effort made, within the City. The report card could be used to identify the magnitude of accomplishments in the previous year and general trends. The report card could include, but not be limited to, keeping track of system completion, travel by bicycle or on foot (counts) and safety.

The City can use the report card to track trends, placing more value on relative than absolute gains (in system completion, mode share and safety). For example, an upward trend in travel by bicycle or on foot would be viewed as a success, regardless of the specific increase in the number of cyclists or walkers. Safety should be considered relative to the increase in cyclists and walkers. Sometimes crash numbers go up simply because cycling and walking increases, at least initially. Instead, measure crashes as a percentage of an estimated overall mode share count.

A major portion of the report card would be an evaluation of system completion. An upward trend would indicate that the City is progressing in its efforts to complete the bicycle and pedestrian network identified in this document. The report card could be developed to utilize information collected as part of annual and ongoing evaluations, as discussed in the previous sections. The report card is not intended to be an additional task for City staff, but rather a means of documenting and publicizing the City's efforts related to bicycle and pedestrian planning. If a Bicycle Pedestrian Advisory Committee is appointed, it can be a task of the committee to review the report cards and adjust future plans and goals accordingly.

In addition to quantifying accomplishments related to the bicycle plan, the City should strive to quantify its efforts. These may be quantified as money spent, staff hours devoted or other in-kind contributions. The quantified effort should be submitted as a component of the bicycle and pedestrian report card. Some cities publish their report cards online.



6

ATP Related Projects Funding Sources

Potential Infrastructure Funding Sources

Federal, state and local government agencies invest billions of dollars every year in the nation's transportation system. Only a fraction of that funding is used to develop policies, plans and projects to improve conditions for bicyclists and pedestrians. Even though appropriate funds are available, they are limited and often hard to find. Desirable projects sometimes go unfunded because communities may be unaware of a fund's existence or may apply for the wrong type of grant. In addition, there is competition between municipalities for the limited available funds.

Whenever federal funds are used for bicycle and pedestrian projects, a certain level of state and/or local matching funding is generally required. State funds are often available to local governments on similar terms. Almost every implemented active transportation or complete street program and facility in the United States has had more than one funding source and it often takes a good deal of coordination to pull the various sources together.

According to the publication by the Federal Highway Administration (FHWA), *An Analysis of Current Funding Mechanisms for Bicycle and Pedestrian Programs at the Federal, State and Local Levels*, where successful local bicycle facility programs exist, there is usually an active transportation coordinator with extensive understanding of funding sources. Cities such as Seattle, Portland, and Tucson are prime examples. City staff are often in a position to develop a competitive project and detailed proposal that can be used to improve conditions for cyclists within their jurisdictions. Some of the following information on federal and state funding sources was derived from the previously mentioned FHWA publication.

Table 7-1 identifies potential funding opportunities that may be used from design to maintenance phases of projects. Due to trends in Low Impact Development (LID) and stormwater retention street designs, funding sources for these improvements not only increase the chances for first and last mile improvements, but can also be incorporated into streetscape and development projects. The sources are arranged by federal, state, local, and private, and the uses that the funds may address.

Table 6-1: Funding Sources

FINDING, FRAMING AND FUNDING A PROJECT		FUNDING USES						
		Typical Approaches			ATYPICAL APPROACHES			
FUNDING SOURCE	FUNDING ORIGIN	CIP Development	Maint. & Operations	FIRST & LAST MILE	URBAN FORESTRY	BACK TO NATURE	LOW IMPACT DEVELOPMENT	CULTURE AND HISTORY
Federal Funding Sources								
Land and Water Conservation Fund (LCWF)	U.S. National Park Service/ California Dept. of Parks and Recreation	✔				✔	✔	
Urban Community Forestry Program	U.S. National Park Service	✔			✔			
Surface Transportation Program	Federal Highway Administration (FHWA) / Caltrans	✔		✔			✔	
Transportation Alternative Program	Federal Highway Administration (FHWA)	✔		✔			✔	
Recreational Trails Program	Federal Highway Administration (FHWA) / Regional agency may also contribute	✔		✔		✔	✔	
Highway Safety Improvement Program	Federal Highway Administration (FHWA) / Caltrans	✔		✔			✔	
EPA Brownfields Clean Up & Assessments	U.S. Environmental Protection Agency	✔		✔			✔	
Sustainable Communities Planning Grant and Incentive Program	U.S. Dept. of Housing and Urban Development (HUD)			✔				
Urban Revitalization & Livable Communities Act	U.S. Dept. of Housing and Urban Development (HUD)			✔				
Community Development Block Grants	U.S. Dept. of Housing and Urban Development (HUD)	✔		✔		✔		✔
ACHIEVE, Communities Putting Prevention to Work, Pioneering Communities	Center for Disease Control & Prevention			✔		✔		
Urban and Community Forest Program	Department of Agriculture, Forest Service	✔			✔	✔	✔	
Community Forest and Open Space Conservation	Department of Agriculture, Forest Service	✔			✔	✔	✔	
Choice Neighborhoods Implementation Grants	Department of Housing and Urban Development, Office of Public and Indian Housing	✔		✔		✔	✔	

Table 6-1: Funding Sources (Cont.)

FINDING, FRAMING AND FUNDING A PROJECT		FUNDING USES						
		Typical Approaches			ATYPICAL APPROACHES			
FUNDING SOURCE	FUNDING ORIGIN	CIP Development	Maint. & Operations	FIRST & LAST MILE	URBAN FORESTRY	BACK TO NATURE	LOW IMPACT DEVELOPMENT	CULTURE AND HISTORY
Safe Routes to School, Mini-grants	National Center for Safe Routes to School & Caltrans	✔		✔				
Metropolitan & Statewide and Nonmetropolitan Transportation Planning	Federal Transit Administration (FTA)	✔		✔			✔	
Urbanized Area Formula Grants	Federal Transit Administration (FTA)	✔	✔	✔			✔	
Bus and Bus Facilities Formula Grants	Federal Transit Administration (FTA)	✔		✔				
Enhanced Mobility of Seniors and Individuals with Disabilities	Federal Transit Administration (FTA)	✔	✔	✔				
Formula Grants for Rural Areas	Federal Transit Administration (FTA)	✔	✔	✔				
TOD Planning Pilot Grants	Federal Transit Administration (FTA)	✔	✔	✔			✔	
State Funding Sources								
Land and Water Conservation Fund (LCWF)	CA Dept. of Parks & Rec	✔		✔		✔	✔	
Statewide Park Program Prop 84 Round 2	CA Dept. of Parks & Rec	✔		✔				
Recreational Trails Program	CA Dept. of Parks & Rec	✔	✔	✔		✔	✔	
Proposition 117 - Habitat Conservation	CA Dept. of Parks & Rec	✔			✔	✔	✔	
Nature Education Facilities	CA Dept. of Parks & Rec	✔	✔			✔		✔
Watershed Program	CA Dept. of Parks & Rec	✔				✔	✔	
Stormwater Flood Management Prop. 1E	CA Dept. of Parks & Rec	✔		✔	✔	✔	✔	

Table 6-1: Funding Sources (Cont.)

FINDING, FRAMING AND FUNDING A PROJECT		FUNDING USES						
		Typical Approaches			ATYPICAL APPROACHES			
FUNDING SOURCE	FUNDING ORIGIN	CIP Development	Maint. & Operations	FIRST & LAST MILE	URBAN FORESTRY	BACK TO NATURE	LOW IMPACT DEVELOPMENT	CULTURE AND HISTORY
Community Based Transportation Planning, Environmental Justice & Transit Planning	Caltrans	✔		✔			✔	
Active Transportation Planning Grants (ATP)	Caltrans	✔		✔			✔	
Traffic Safety Grants	CA Office of Traffic Safety	✔		✔				
Coastal Conservancy Grants	CA Coastal Conservancy	✔		✔	✔	✔	✔	✔
Non-point Source Pollution, Watershed Plans, Water Conservation (Props 13, 40, 50 & 84)	State Water Resources Control Board	✔	✔		✔		✔	
Sustainable Communities Planning, Regional SB 375	Strategic Growth Council/ Dept of Conservation	✔		✔	✔	✔	✔	✔
Environmental Enhancement & Mitigation (EEMP)	California Natural Resources Agency & Caltrans	✔				✔	✔	
California River Parkways and Urban Streams Restoration Grant	CA Natural Resources Agency /Dept of Water Resources	✔	✔	✔		✔	✔	
California Cap and Trade Program	Cal EPA, Air Resources Board	✔		✔	✔	✔		
Urban Forestry Program (Leafing Out, Leading Edge and Green Trees Grants)	California Department of Forestry and Fire Protection (CAL FIRE)	✔			✔			
Local Funding Sources								
Regional Transportation Improvement Program	SLOCOG	✔		✔			✔	
Safe Routes to School Programs(SR2S) - SLOCOG	SLOCOG	✔		✔			✔	
Special Habitat Conservation Programs	Regional MPOs / Local Cities				✔	✔	✔	
Special Parks and Recreation Bond Revenues	Regional MPOs / Local Cities	✔	✔	✔	✔	✔	✔	✔

Table 6-1: Funding Sources (Cont.)

FINDING, FRAMING AND FUNDING A PROJECT		FUNDING USES						
		Typical Approaches			ATYPICAL APPROACHES			
FUNDING SOURCE	FUNDING ORIGIN	CIP Development	Maint. & Operations	FIRST & LAST MILE	URBAN FORESTRY	BACK TO NATURE	LOW IMPACT DEVELOPMENT	CULTURE AND HISTORY
Special Transportation Bonds and Sales Tax Initiatives	Regional MPOs / Local Cities	✔	✔	✔	✔	✔	✔	✔
Advertising Sales/Naming Rights	Local Jurisdictions	✔	✔	✔	✔			✔
Community Facilities District (CFD) Infrastructure Financing District (IFD) Facilities Benefit Assessment District (BFA)	Local Jurisdictions	✔	✔	✔	✔	✔	✔	✔
Business Improvement (BID) Maint. Districts (MAD) Property Based Improvement Districts (PBID) Landscape Maint. District (LMD)	Non-profits, business organizations or City		✔	✔	✔		✔	✔
Easement Agreements/Revenues	Local Jurisdictions	✔	✔		✔			
Equipment Rental Fees	Local Jurisdictions	✔	✔	✔		✔		✔
Facility Use Permits Fees	Local Jurisdictions	✔	✔	✔		✔		✔
Fees and Charges/Recreation Service Fees	Local Jurisdictions	✔	✔	✔		✔		✔
Food and Beverage Tax	Local Jurisdictions	✔	✔	✔		✔		✔
General Fund	Local Jurisdictions	✔	✔	✔	✔	✔	✔	✔
General Obligation Bonds	Local Jurisdictions	✔	✔	✔	✔	✔	✔	✔
Intergovernmental Agreements	Local Jurisdictions	✔	✔	✔	✔	✔	✔	✔
Lease Revenues	Local Jurisdictions	✔	✔	✔	✔	✔	✔	✔
Mello Roos Districts	Local jurisdictions	✔	✔	✔	✔	✔	✔	✔
Residential Park Improvement Fees	Local Jurisdictions	✔		✔	✔	✔	✔	✔
Park Impact Fees	Local Jurisdictions	✔		✔	✔	✔	✔	✔

Table 6-1: Funding Sources (Cont.)

FINDING, FRAMING AND FUNDING A PROJECT		FUNDING USES						
		Typical Approaches			ATYPICAL APPROACHES			
FUNDING SOURCE	FUNDING ORIGIN	CIP Development	Maint. & Operations	FIRST & LAST MILE	URBAN FORESTRY	BACK TO NATURE	LOW IMPACT DEVELOPMENT	CULTURE AND HISTORY
Traffic Impact Fees	Local Jurisdictions	✔	✔	✔	✔	✔	✔	✔
In-Lieu Fees	Local Jurisdictions	✔		✔	✔	✔	✔	✔
Pouring Rights Agreements	Local Jurisdictions	✔		✔	✔	✔	✔	✔
Private Development Agreements	Local Jurisdictions	✔	✔	✔	✔	✔	✔	✔
Surplus Real Estate Sale Revenues	Local Jurisdictions	✔		✔	✔	✔	✔	✔
Revenue Bond Revenues	Local Jurisdictions	✔	✔	✔	✔	✔	✔	✔
Sales Tax Revenues	Local Jurisdictions	✔	✔	✔	✔	✔	✔	✔
Transient Occupancy Tax Revenues	Local Jurisdictions	✔	✔	✔	✔	✔	✔	✔
Wastewater Fund Reserves	Local Jurisdictions		✔	✔	✔		✔	
Utility Taxes	Local Jurisdictions	✔	✔	✔	✔	✔	✔	✔
Private Funding Sources								
California ReLeaf Urban Forestry Grant	California ReLeaf	✔			✔			
Grants for Parks	California State Parks Foundation	✔		✔		✔	✔	
Various Sports Field Grants	Various Agencies, Foundation & Corporations	✔	✔	✔				
America's Historical Planning Grants	National Endowment for the Humanities	✔						✔
Corporate Sponsorships	Corporate Citizens	✔	✔	✔	✔	✔	✔	✔
Private Sector Partnerships	Private Corporations	✔	✔	✔	✔	✔	✔	✔
Non-Profit Partnerships	Non-Profit Corporations	✔	✔	✔	✔	✔	✔	✔
Foundation Grants	Private Foundations	✔	✔	✔	✔	✔	✔	✔

Table 6-1: Funding Sources (Cont.)

FINDING, FRAMING AND FUNDING A PROJECT		FUNDING USES						
		Typical Approaches			ATYPICAL APPROACHES			
FUNDING SOURCE	FUNDING ORIGIN	CIP Development	Maint. & Operations	FIRST & LAST MILE	URBAN FORESTRY	BACK TO NATURE	LOW IMPACT DEVELOPMENT	CULTURE AND HISTORY
Private Donations	Private Individuals	✔	✔	✔	✔	✔	✔	✔
Irrevocable Remainder Trusts	Private Individuals	✔	✔				✔	✔
Targeted Fund-raising Activities	Local Jurisdictions	✔	✔	✔	✔	✔	✔	✔
Community Change Micro Grant	America Walks	✔		✔			✔	✔

Map Created On
11/30/2017

Proposed Projects
- Multi-use Path (Class I)
- Bike Lane (Class II)
- Buffered/Green Bike Lane (Class II)
- Bike Route (Class III)
- Sharrows (Class IIIA)
- Pedestrian Enhancements
- Proposed Trail/Sidewalk Connection
- Improvement Location
- Railroad Crossing Improvement

Existing Bikeways
- Multi-use Path (Class I)
- Bike Lane (Class II)
- Bike Route (Class III)
- City Limits
- Park
- Existing School
- Future School Site

0 500 1,000 2,000 3,000 Feet

To Be Completed by County
Connects To Salinas River Trail Plan To Be Completed by County
To Be Completed By County
Bridge
Continues into County as Class III

Multi-use Path (Class I)

Bike Lane (Class II)

Buffered Bike Lane (Class IIB)

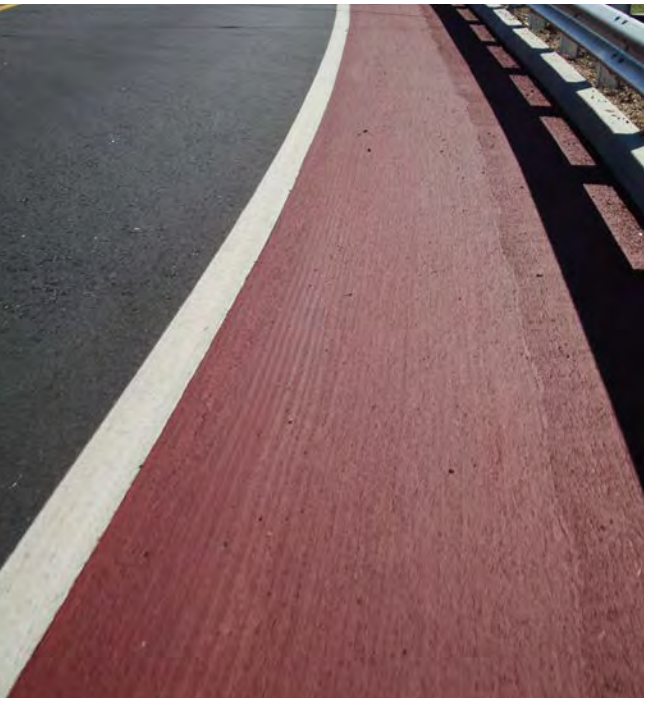
Bike Route (Class III)

Sharrows (Class IIIA)

Agenda Item 5

CITY OF PASO ROBLES

Bicycle & Pedestrian Master Plan **Appendices**



ADMINISTRATIVE DRAFT
DECEMBER 2017

Appendices

Appendix A: Design Guidelines A-1
Appendix B: Public Outreach Summary B-1
Appendix C: Pedestrian and Bicycle Criteria and Results C-1
Appendix D: Safe Routes to School D-1
Appendix E: Cost Estimates E-1

Appendix A
Design Guidelines

Design Guidelines

This appendix is intended to assist in the selection and design of bicycle facilities. The following pages pull together best practices by facility type from public agencies and municipalities nationwide. Within the design section, treatments are covered within a single sheet tabular format relaying important design information and discussion, example photos, schematics (if applicable), and existing summary guidance from current or upcoming draft standards. Existing standards are referenced throughout and should be the first source of information when seeking to implement any of the treatments featured here.

Several agencies and organizations provide design standards for bike facilities in the US. The most commonly used manuals that outline these standards are listed below.

National Standards

The Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD) defines the standards used by road managers nationwide to install and maintain traffic control devices on all public streets, highways, bikeways, and private roads open to public traffic. The FHWA MUTCD forms the basis of the California MUTCD.

To further clarify the MUTCD, the FHWA created a table of contemporary bicycle facilities that lists various bicycle related signs, markings, signals, and other treatments and identifies their official status (e.g., can be implemented, currently experimental). See Bicycle Facilities and the Manual on Uniform Traffic Control Devices.

Bikeway treatments not explicitly covered by the MUTCD are often subject to experiments, interpretations and official rulings by the FHWA. The MUTCD Official Rulings is a resource that allows website visitors to obtain information about these supplementary materials. Copies of various documents (such as incoming request letters, response letters from the FHWA, progress reports, and final reports) are available on this website.

American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities, updated in June 2012 provides guidance on dimensions, use, and layout of specific bicycle facilities. The standards and guidelines presented by AASHTO provide basic information, such as minimum sidewalk widths, bicycle lane dimensions, detailed striping requirements and recommended signage and pavement markings.

The National Association of City Transportation Officials' (NACTO) design guides, which include the 2014 Urban Bikeway Design Guide, the 2016 Transit Street Design Guide, and the 2017 Urban Stormwater Guide are the newest publications of nationally recognized bikeway, transit, and stormwater design standards, and offers guidance on the current state of the practice designs. The intent of these guides is to offer substantive guidance for cities seeking to improve bicycle transportation, transit, and stormwater management in places where competing demands for the use of the right of way present unique challenges. All of the NACTO design guides treatments are in use internationally and in many cities around the US.

Meeting the requirements of the Americans with Disabilities Act (ADA) is an important part of any bicycle and pedestrian facility project. The United States Access Board's proposed Public Rights-of-Way Accessibility Guidelines4 (PROWAG) and the 2010 ADA Standards for Accessible Design5 (2010 Standards) contain standards and guidance for the construction of accessible facilities. This includes requirements for sidewalk curb ramps, slope requirements, and pedestrian railings along stairs.

Some of these treatments are not directly referenced in the current versions of the AASHTO Guide or the MUTCD, although many of the elements of these treatments are found within these documents. In all cases, engineering judgment is recommended to ensure that the application makes sense for the context of each treatment, given the many complexities of urban streets.

FHWA. Bicycle Facilities and the manual on Uniform Traffic Control Devices. 2011. http://www.fhwa.dot.gov/environment/bikeped/mutcd_bike.htm

MUTCD Official Rulings. FHWA. http://mutcd.fhwa.dot.gov/orsearch.asp

https://nacto.org/publications/design-guides/

http://www.access-board.gov/prowac/

http://www.ada.gov/2010adastandards_index.htm

State Standards and Guidelines

California Highway Design Manual (HDM) (2016)

This manual establishes uniform policies and procedures to carry out highway design functions for the California Department of Transportation. The 2016 edition incorporated Complete Streets focused revisions to address the Department Directive 64 R-1.

Complete Intersections: A Guide to Reconstructing Intersections and Interchanges for Bicyclists and Pedestrians (2010)

This California Department of Transportation reference guide presents information and concepts related to improving conditions for bicyclists and pedestrians at major intersections and interchanges. The guide can be used to inform minor signage and striping changes to intersections, as well as major changes and designs for new intersections.

Main Streets: Flexibility in Design & Operations (2005)

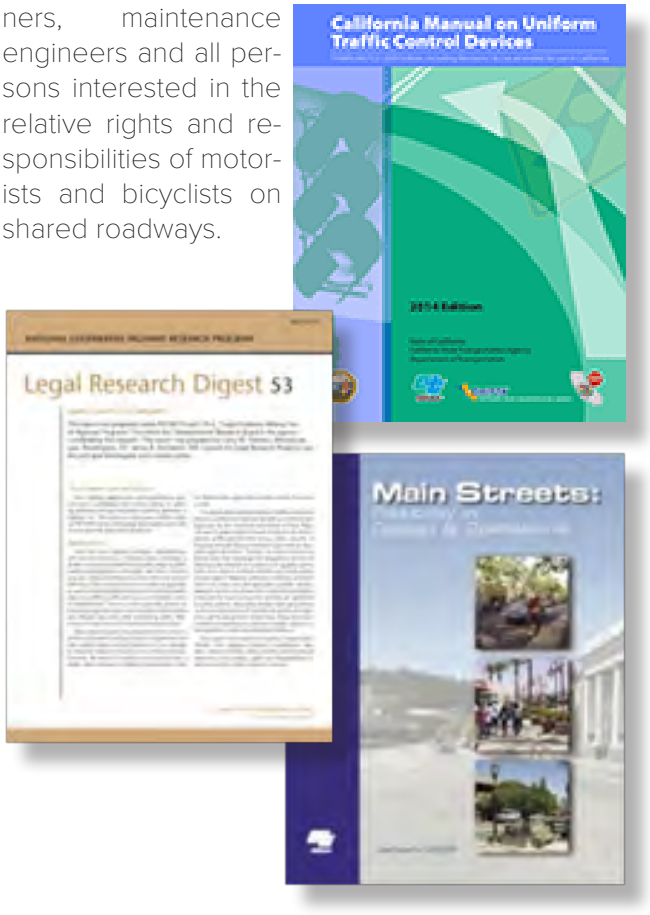
This Caltrans booklet is an informational guide that reflects many of the recent updates to the Caltrans manuals and policies that improve multimodal access, livability and sustainability within the transportation system. The document will help users locate information about standards and procedures descried in the Caltrans Highway Design Manual (HDM), the California Manual on Uniform Traffic Control Devices (California MUTCD) and the Project Development Procedures Manual (PDPM).

New Legislation Allowing Safety Standards Other Than Caltrans' HDM: AB 1193

AB 1193, signed into law on September 22, 2014, allows local agencies to adopt, by resolution, safety standards for bikeways other than Caltrans' Highway Design Manual. According to the Legislative Analyst, AB 1193 "allows local governments to deviate from state criteria when designing bikeways, but does not give them complete control. Cities and counties that elect to use design criteria not contained within the HDM would have to ensure that the alternative criteria have been reviewed and approved by a qualified engineer, are adopted by resolution at a public meeting, and adhere to guidelines established by a national association of public agency transportation officials, such as the National Association of City Transportation Officials." The bill also expands the definition of bikeways to include cycle tracks or separated bikeways, also referred to as "Class IV bikeways," which promote active transportation and provide a right-of-way designated exclusively for bicycle travel adjacent to a roadway and which are protected from vehicular traffic. Types of separation include, but are not limited to, grade separation, flexible posts, inflexible physical barriers, or on-street parking.

NCHRP Legal Digest 53: Liability Aspects of Bikeways (2010)

This digest is a useful resource for city staff considering innovative engineering solutions to localized issues. The document addresses the liability of public entities for bicycle collisions on bikeways as well as on streets and highways. The report will be useful to attorneys, transportation officials, planners, maintenance engineers and all persons interested in the relative rights and responsibilities of motorists and bicyclists on shared roadways.



Bicycle Facility Standards Compliance

Some of these bicycle facilities covered by these guidelines are not directly referenced in the current versions of the AASHTO Guide or the California MUTCD, although many of the elements of these treatments are found within these documents. An "X" marking in the following table identifies the inclusion of a particular treatment within the national and state design guides. A "-" marking indicates a treatment may not be specifically mentioned, but is compliant assuming MUTCD compliant signs and markings are used.

In all cases, engineering judgment is recommended to ensure that the application makes sense for the context of each treatment, given the many complexities of urban streets.

	California Manual of Uniform Taffic Control Devices (2016)	Guide for the Development of Bicycle Facilities (2012)	Urban Bikeway Design Guide (2014)
Signed Shared Roadway	X	X	
Marked Shared Roadway	X	X	X
Bicycle Boulevard		X	X
Bicycle Lane	X	X	X
Buffered Bicycle Lane	X	X	X
Cycle Tracks	DIB 89	Called "one-way sidepath"	X
Bike Box	X		X
Bike Lanes at Right Turn Only Lanes	X	X	X
Colored Bike Lanes in Conflict Areas	FHWA Interim Approval Granted	X	X
Combined Bike Lane/Turn Lane	X		X
Two-Staged Turn Queue Boxes			
Intersection Crossing Markings	X	X	X
Wayfinding Sign Types & Placement	X	X	X
Wayfinding Sign Placement	X	X	X
Shared-Use Path	X	X	X
Active Warning Beacons	X	X	X
Pedestrian Hybrid Beacons	X	X	X

Multimodal Level of Service

Description

Multimodal Level of Service (MMLOS) methods are used to inventory and evaluate existing conditions, or to forecast future conditions for roadway users under different design scenarios. While automobile-oriented LOS measures vehicle delay, Bicycle, Pedestrian and Transit LOS is oriented toward user comfort.

MMLOS scores different modes independently, but their results are interdependent, allowing an understanding of trade-offs between modes for different street designs. A compatible A-F scoring system makes comparison between modes simple.

There are a variety of Multimodal or Bicycle/Pedestrian LOS tools available for use. Different tools require different data and may present different or conflicting results. Despite potential limitations of MMLOS methodology, the results help jurisdictions better plan for all road users.

Guidance

MMLOS modeling is an emerging practice, and current methods may be improved on or revised. The knowledge of local residents and planners should be used to verify MMLOS model results.

The 2000 Highway Capacity Manual includes dated LOS models for bicycle and pedestrian users. Methods presented in this edition and should not be used.

The current standard for MMLOS calculation is described in the 2010 Highway Capacity Manual (HCM 2010). This method has limitations, particularly for Bicycle LOS modeling. See Discussion below.

Consider using an alternative MMLOS method/tool if HCM 2010 is not appropriate for you community. Other multimodal "Service Quality" tools include:

- Florida DOT LOSPLAN
- LOS+
- Mineta Level of Traffic Stress (LTS) Analysis. (Bicycle only scoring)

Discussion

Limitations of the HCM 2010 model for Bicycle LOS calculations include:

Gradients are not included in calculations.

The presence of contemporary facility types included in this guide, such as shared lane markings, bike boxes or cycle tracks are not included, although the Florida LOSPLAN update does features cycle tracks.

Scoring is for a "typical" adult bicyclist, and weighs the presence of a bike lane very heavily. Results may not be appropriate in communities that seek to encourage bicycle travel by people of varying ages and abilities where bike lanes may not be adequate.

Additional References and Guidelines

Transportation Research Board. Highway Capacity Manual. 2010.

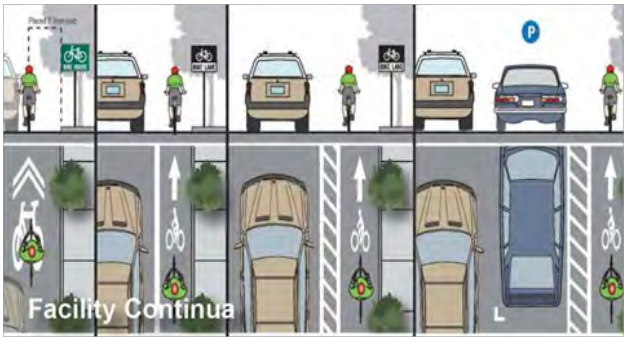
Florida Department of Transportation. LOSPLAN. 2012. http://www.dot.state.fl.us/planning/systems/sm/los/los_sw2m2.shtm

Fehr&Peers. LOS+ Multi-Modal Roadway Analysis Tool. http://www.fehrandpeers.com/losplus/

Mineta Transportation Institute. Low-Stress Bicycling and Network Connectivity. 2011. http://transweb.sjsu.edu/project/1005.html

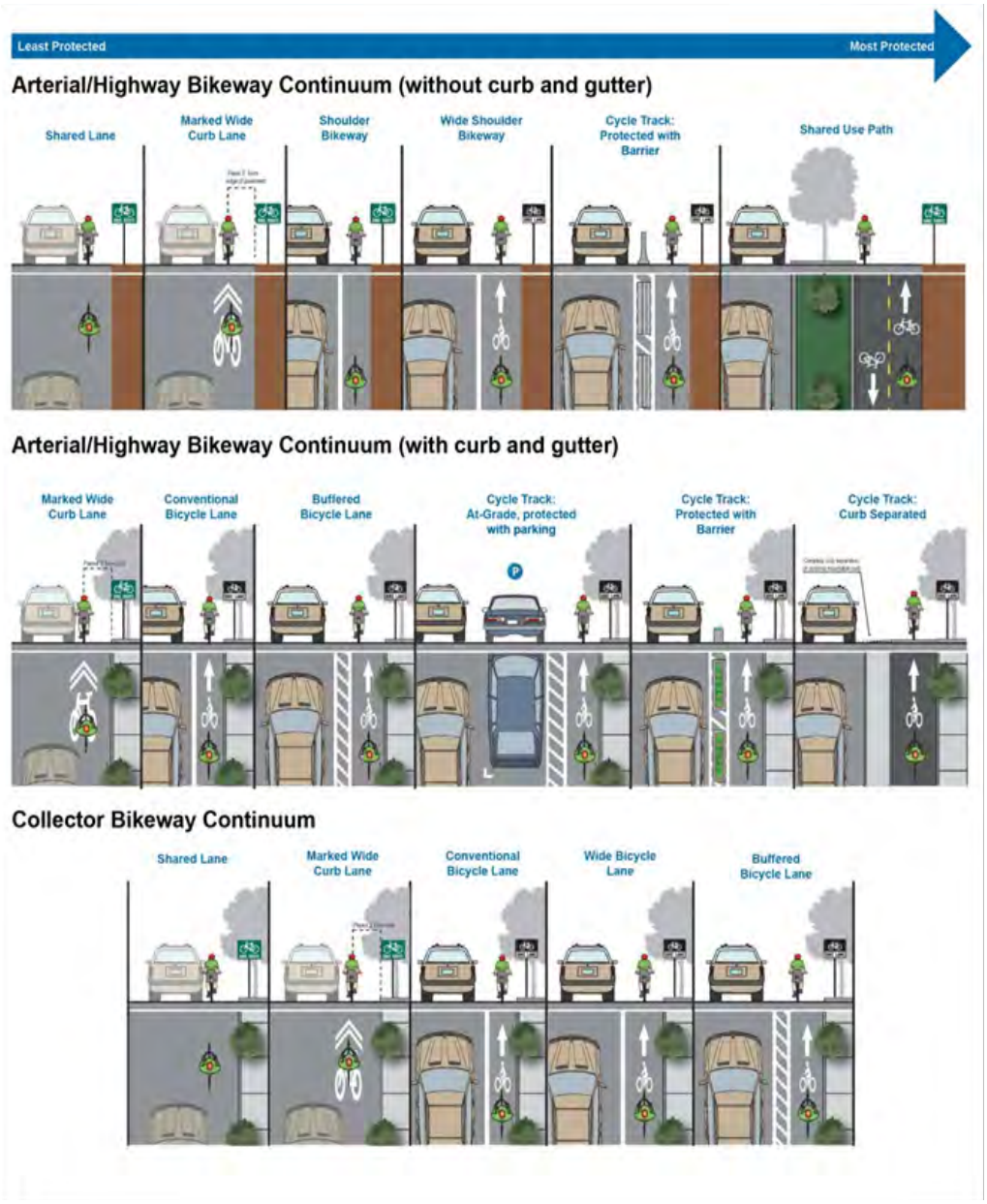
Bicycle Facility Selection

There are no 'hard and fast' rules for determining the most appropriate type of bicycle facility for a particular location – roadway speeds, volumes, right-of-way width, presence of parking, adjacent land uses, and expected bicycle user types are all critical elements of this decision. Studies find that the most significant factors influencing bicycle use are motor vehicle traffic volumes and speeds. Additionally, most bicyclists prefer facilities separated from motor vehicle traffic or located on local roads with low motor vehicle traffic speeds and volumes. Because off-street pathways are physically separated from the roadway, they are perceived as safe and attractive routes for bicyclists who prefer to avoid motor vehicle traffic. Consistent use of treatments and application of bikeway facilities allow users to anticipate whether they would feel comfortable riding on a particular facility, and plan their trips accordingly. This section provides guidance on various factors that affect the type of facilities that should be provided.



Facility Continua

The following continua illustrate the range of bicycle facilities applicable to various roadway environments, based on the roadway type and desired degree of separation. Engineering judgment, traffic studies, previous municipal planning efforts, community input and local context should be used to refine criteria when developing bicycle facility recommendations for a particular street. In some corridors, it may be desirable to construct facilities to a higher level of treatment than those recommended in relevant planning documents in order to enhance user safety and comfort. In other cases, existing and/or future motor vehicle speeds and volumes may not justify the recommended level of separation, and a less intensive treatment may be acceptable.



Facility Classification

Description

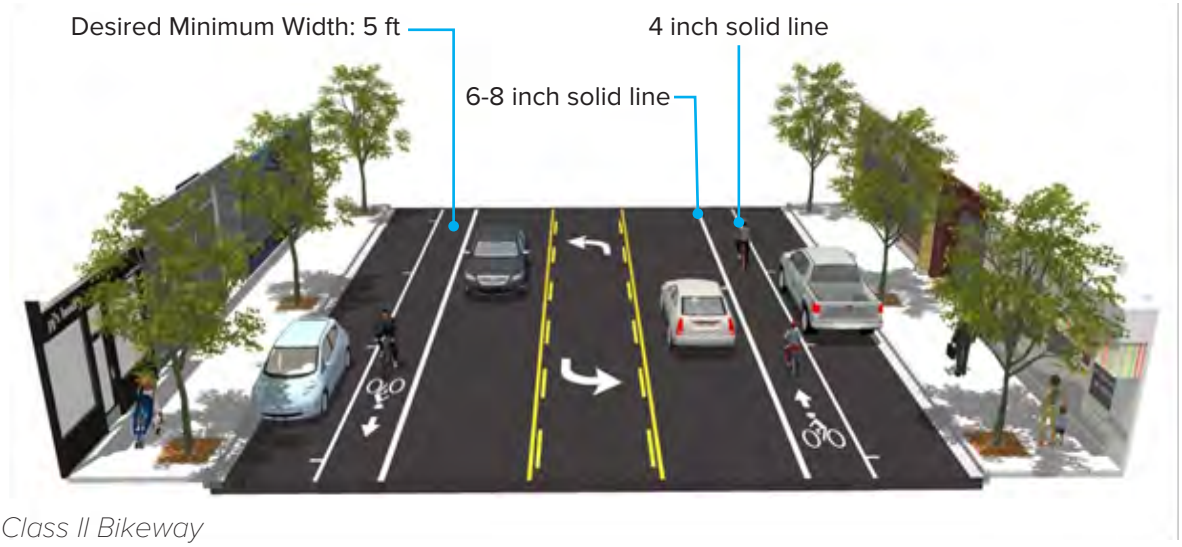
Consistent with bicycle facility classifications throughout the nation, these Bicycle Facility Design Guidelines identify the following classes of facilities by degree of separation from motor vehicle traffic.

Shared Roadways (No bikeway designation) are bikeways where bicyclists and cars operate within the same travel lane, either side by side or in single file depending on roadway configuration. In some instances, streets may be fully adequate and safe without bicycle specific signing and pavement markings.

Class II Bikeways (Bike Lanes) use signage and striping to delineate the right-of-way assigned to bicyclists and motorists. Bike lanes encourage predictable movements by both bicyclists and motorists.

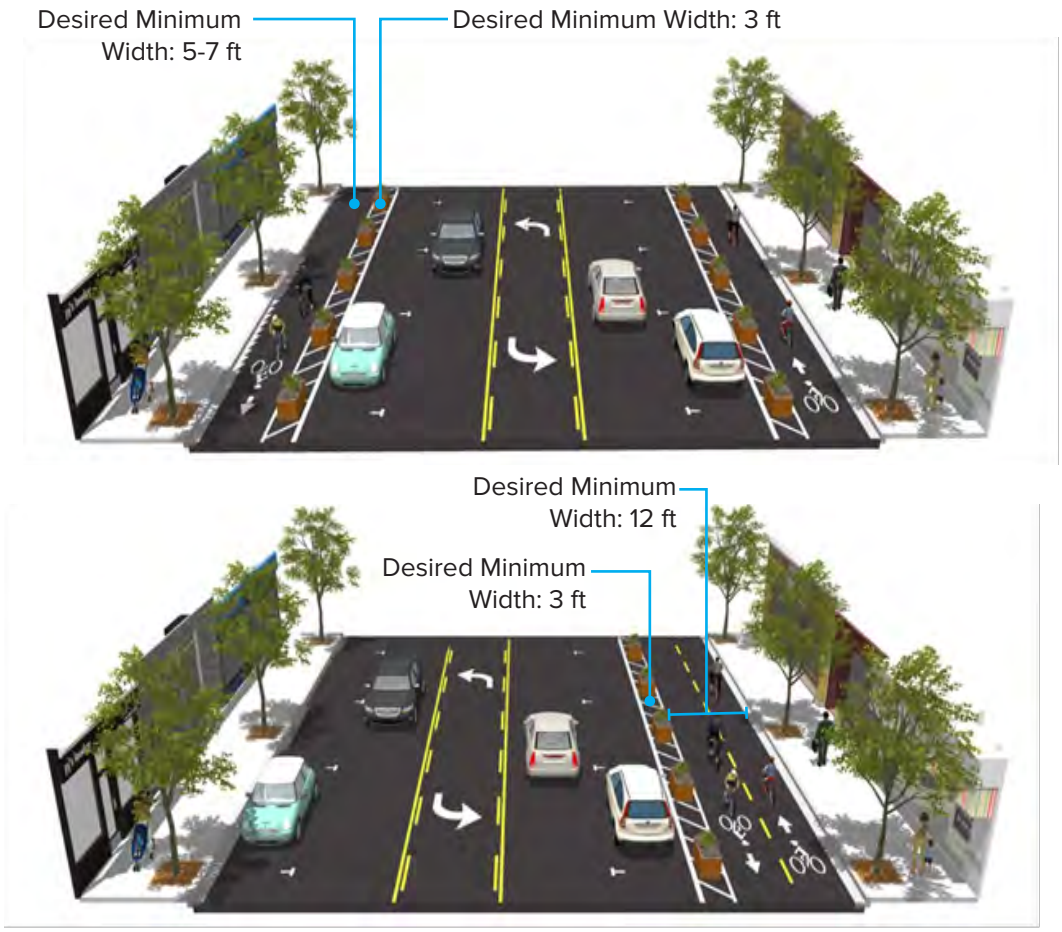
Class III Bikeways (Bike Routes) are Shared Roadways configured with pavement markings, signage and other treatments including directional signage, traffic diverters, chicanes, chokers and /or other traffic calming devices to reduce vehicle speeds or volumes. Such enhanced treatments often are associated with Bicycle Boulevards.

Shared Roadway



Class II Bikeway

Class IV Separated Bikeways (Cycle Tracks) are exclusive bike facilities that combine the user experience of a separated path with the on-street infrastructure of conventional bike lanes.



Class 1 Bikeways (Multi-Use Paths) are facilities separated from roadways for use by bicyclists and pedestrians.

Shared Roadways

On shared roadways, bicyclists and motor vehicles use the same roadway space. These facilities are typically used on roads with low speeds and traffic volumes, however they can be used on higher volume roads with wide outside lanes or shoulders. A motor vehicle driver will usually have to cross over into the adjacent travel lane to pass a bicyclist, unless a wide outside lane or shoulder is provided. Shared roadways employ a large variety of treatments from simple signage and shared lane markings to more complex treatments including directional signage, traffic diverters, chicanes, chokers, and/or other traffic calming devices to reduce vehicle speeds or volumes.

Signed Shared Roadway


Marked Shared Roadway

Signed Shared Roadway

A SHARE THE ROAD plaque (W16-1p) may be used in conjunction with a bicycle warning sign (W11-1) to warn drivers to watch for slower forms of transportation

Description

Class 3 facilities are generally located on roadways with lower speeds and lower traffic volumes. Class 3 facilities are designated as roadways with no striped bicycle lanes, but include signage to indicate the roadway is a bicycle route. Shared roadways can be used on higher volume roads with wide outside lanes or shoulders. A motor vehicle driver will usually have to cross over into the adjacent travel lane to pass a bicyclist, unless a wide outside lane or shoulder is provided.

Guidance

"BIKE ROUTE" - This sign (D11-1) is intended for use where no unique designation of routes is desired. However, when used alone, this sign conveys very little information. Directional changes should be signed with appropriate arrow sub-plaques (D1-1b) or directional signage

"Bicycles May Use Full Lane" (BMUFL) - This sign (R4-11) sign may be used:

On roadways where there are no bicycle lanes or adjacent shoulders usable by cyclists and where travel lanes are too narrow for cyclists and motor vehicles to safely operate side-by-side.

In locations where it is important to inform all road users that cyclists may occupy the travel lane.

Discussion

A Bicycle May Use Full Lane sign (R4-11) may be used on a lane that is too narrow for a bicycle and an automobile to share the road side by side within the same lane).

Materials and Maintenance

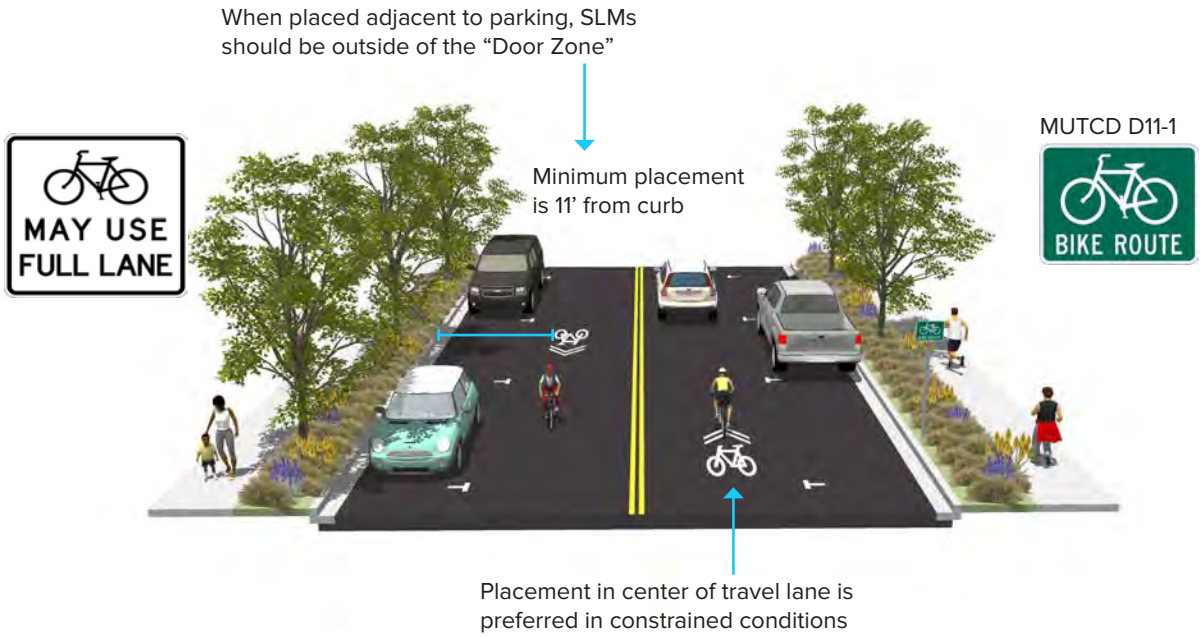
Maintenance needs for bicycle wayfinding signs are similar to other signs, and will need periodic replacement due to wear.

Additional References and Guidelines

AASHTO. Guide for the Development of Bicycle Facilities. 2012.

California MUTCD. 2014, Revision 2.

Marked Shared Roadway



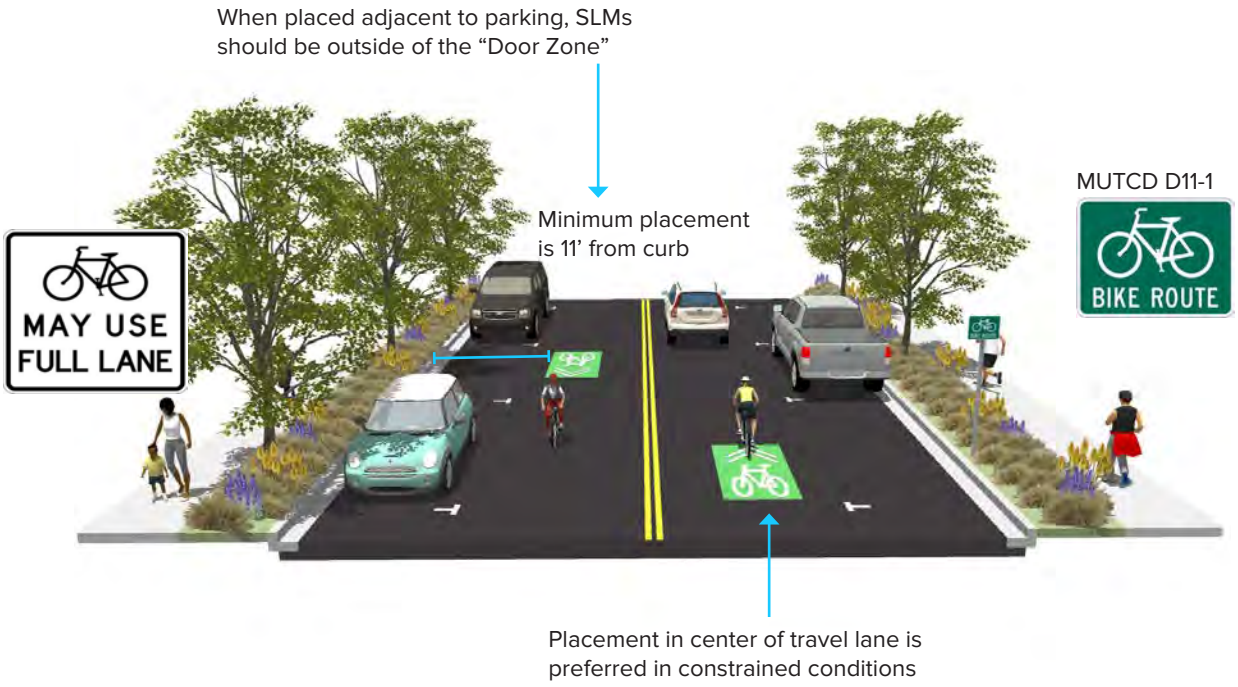
Description

The shared lane marking (SLM) or 'Sharrow" is commonly used where parking is allowed adjacent to the travel lane. The center of the marking should be located a minimum of 11 feet from the curb face or edge of the road. If used on a street without on-street parking that has an outside travel lane less than 14 feet wide, the centers of the Shared Lane Markings should be at least four feet from the face of the curb, or from the edge of the pavement where there is no curb. (Note that these criteria are evolving and that it is now common practice to place SLMs in the center of the rightmost travel lane.)

Guidance

Shared lane markings may be considered in the following situations:

- On roadways with speeds of 35 mph or less (CA MUTCD)
- On constrained roadways too narrow to stripe with bicycle lanes
- To delineate space within a wide outside lane where cyclists can be expected to ride
- On roadways where it is important to increase vehicle driver awareness of cyclists
- On roadways where cyclists tend to ride too close to parked vehicles



Discussion

Bike Lanes should be considered on roadways with outside travel lanes wider than 15 feet, or where other lane narrowing or removal strategies may provide adequate road space. SLMs shall not be used on shoulders, on designated Bike Lanes, or to designate Bicycle Detection at signalized intersections. (MUTCD 9C.07)

Materials and Maintenance

Placing SLMs between vehicle tire tracks will increase the life of the markings and minimize the long-term cost of the treatment.

Additional References and Guidelines

Caltrans HDM Chapter 300

California MUTCD. 2014, Revision 2.

NACTO Urban Bikeway Design Guide, 2014

Model Design Manual of Living Streets, 2011

FHWA MUTCD. Interim Approval for Optional Use of Green Colored Pavement for Bike Lanes (IA-14)

Separated Bikeways

Designated exclusively for bicycle travel, separated bikeways are segregated from vehicle travel lanes by striping (Class II), or physical measures such as bollards or curbs (Class 4 Separated Bikeways). Separated bikeways are most appropriate on arterial and collector streets where higher traffic volumes and speeds warrant greater separation. Separated bikeways can increase safety and promote proper riding by:

Defining road space for bicyclists and motorists, reducing the possibility that motorists will stray into the bicyclists' path.

Discouraging bicyclists from riding on the sidewalk.

Reducing the incidence of wrong way riding.

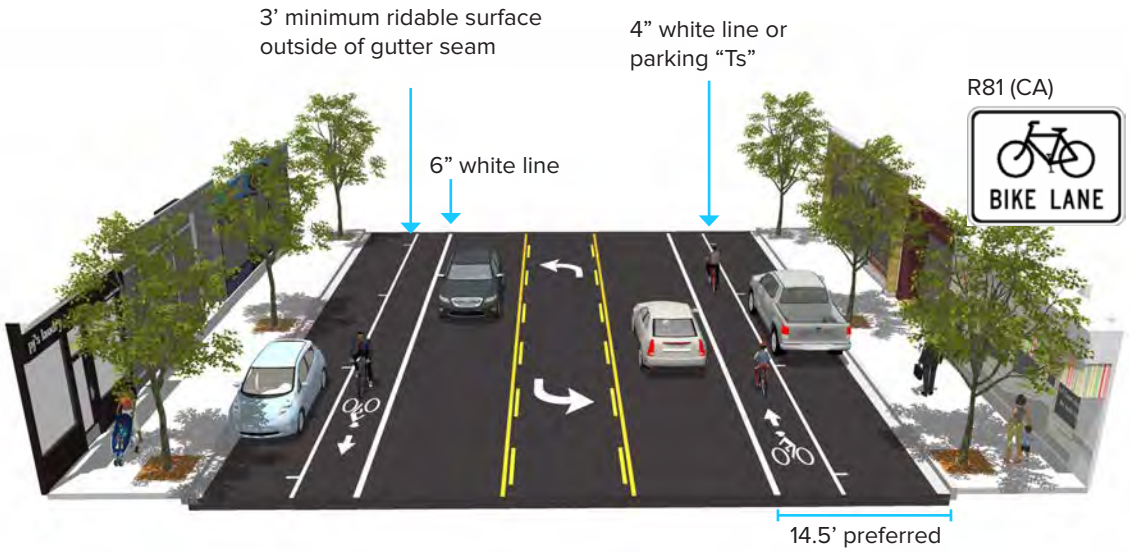
Reminding motorists that bicyclists have a right to the road.

Bicycle Lane


Buffered Bicycle Lanes


Cycle Tracks

Bicycle Lane



Description

This facility provides an exclusive lane for one-way bicycle travel on a street or highway, installed along streets in corridors where there is significant bicycle demand, and where there are distinct needs that can be served by them. On streets with on-street parking, bicycle lanes are located between the parking area and the traffic lanes and used in the same direction as motor vehicle traffic.

Many bicyclists, particularly less experienced riders, are more comfortable riding on a busy street if it has a striped and signed bikeway than if they are expected to share a lane with vehicles.

Guidance

Provide five foot minimum width for bicycle lanes located between parking and traffic lanes. Six feet is desired.

Provide four foot minimum width if no gutter exists. With a normal two foot gutter, minimum bicycle lane width is five feet.

14.5 foot preferred from curb face to edge of bike lane. (12 foot minimum).

Seven foot maximum width for use adjacent to arterials with high travel speeds. Greater widths may encourage motor vehicle use of bike lane.

When approaching an intersection with right turn only lanes, the bike lane should be transitioned to a through bike lane to the left of the right turn only lane.

Discussion

Wider bicycle lanes are desirable in certain situations such as on higher speed arterials (45 mph+) where use of a wider bicycle lane would increase separation between passing vehicles and bicyclists. Consider Buffered Bicycle Lanes when further separation is desired.

Materials and Maintenance

Paint can wear more quickly in high traffic areas or in winter climates. Bicycle lanes should be cleared of snow through routine snow removal operations.

Additional References and Guidelines

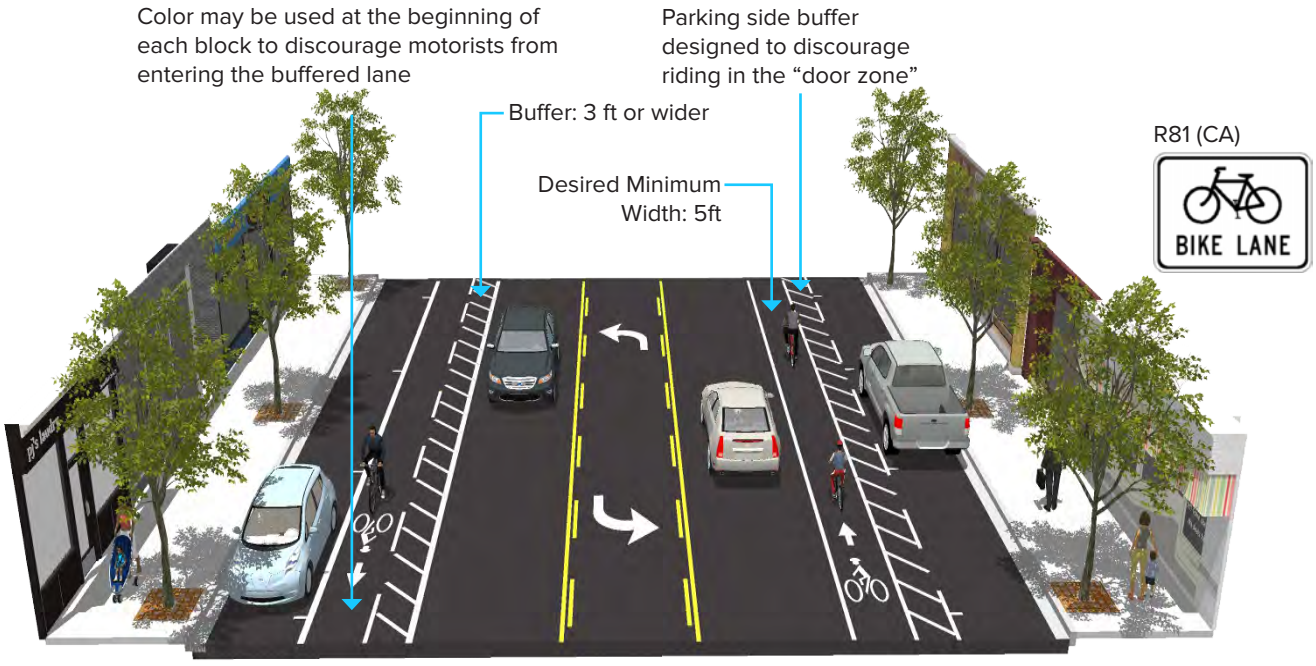
AASHTO Guide for the Development of Bicycle Facilities, 2012.

California MUTCD, 2014, Revision 2.

NACTO Urban Bikeway Design Guide, 2014.

Caltrans California HDM, 2016.

Buffered Bicycle Lane



Travel side (left) and parking side (right) buffers

Description

Buffered Bike Lanes are defined in the Urban Bikeway Guide as "conventional bike lanes paired with a buffered space separating the bike lane from the adjacent motor vehicle travel lane and/or parking lane." Buffered bike lanes are allowed as per California 2014 MUTCD guidelines for buffered preferential lanes (section 3D-01).

Conventional bike lanes typically provide 5 to 6 foot wide space between the curb and travel lane. However, many bicyclists are uncomfortable riding this close to moving traffic particularly on higher speed and/or higher volume roadways. A recent study from Portland Sate titled "Evaluation of innovative bicycle facilities," shows that bicyclists feel a lower risk of being "doored" in a buffered bike lane and nearly nine in ten bicyclists prefer buffered lanes to standard lanes. Seven in ten bicyclists indicated they would go out of their way to ride on a buffered bike lane over a standard lane.

The NACTO Urban Bikeway Design guides list several advantages of buffered lanes including:

- Providing a "shy" distance between motor vehicles and bicyclists.
- Providing space for bicyclists to pass another bicyclist without encroaching into the adjacent motor vehicle travel lane.
- Encouraging bicyclists to ride outside the door zone when buffer is between parked cars and the bike lane.
- Providing a greater space for bicycling without making the bike lane appear so wide that it might be mistaken for a travel or parking lane.
- Appealing to a wider cross-section of bicycling users.
- And encouraging bicycling by contributing to the perception of safety among users of the bicycle network.
- There are three types of buffers:
- Parking or side or curb buffer
- Travel lane side buffer
- Combined side or double buffer

Parking side or curb buffers

Parking or curb side buffers provide space between the bicyclist and parked cars or the gutter pan. This (1) reduces the potential for a bicyclist to strike a car door being opened by a driver, (2) eliminates use of the gutter pan as part of the bike lane, and (3) moves the bicyclist out of the blind spots of motorists approaching on the side streets or driveways.

The limitation to the parking side or curb side buffer is that they do not provide the "shy space" that makes bicyclists feel more comfortable, but they do reduce the risk of dooring and the use of the gutter pan as part of the bike lane.

Travel side buffer

Travel side buffers provide space between the bicyclist and motor vehicles in the travel lane. High speed, high volume roadways make many bicyclists uncomfortable. Recent studies from the Portland State have shown that a simple buffer substantially increases the level of comfort for most bicyclists.

Combined side or double sided buffer

The combined side or double sided buffer offers the advantage of guiding the bicyclists away from the door zone while providing a perceived safer distance between the bicyclist and the motor vehicles.

Guidance

According to California MUTCD 2014- Section 3D Buffered bike lanes are considered "allowable" treatments. Signage and dimensional guidelines are the same as for Class 2 bicycle lanes. Additional guidance is included in the NATCTO Urban Bikeway Design Guide.

- Bike lane word and/or symbol shall be used (MUTCD Figure 9C-3).
- The buffer shall have interior diagonal cross hatching or chevron markings if it is 3 feet in width or wider.
- The buffer shall be marked with 2 white lines. The California MUTCD 2014 standards (Section 3D.01) are such that for a bicyclist to be allowed to cross a double white line it must be dashed (these are the same standards applied to buffered HOV Lanes). Thus it is recommended that the inside line be dashed instead of solid.
- Buffers should be at least 24 inches wide.

Discussion

Add diagonal striping on the outer buffer adjacent to the traffic lanes every 10 feet. However longitudinal spacing should be determined by engineering judgment considering factors such as speed and desired visual impacts.

- On-street parking remains adjacent to the curb.
- A travel lane may need to be eliminated or narrowed to accommodate buffers.

Materials and Maintenance

Paint can wear more quickly in high traffic areas or in winter climates. Bicycle lanes should be cleared of snow through routine snow removal operations.

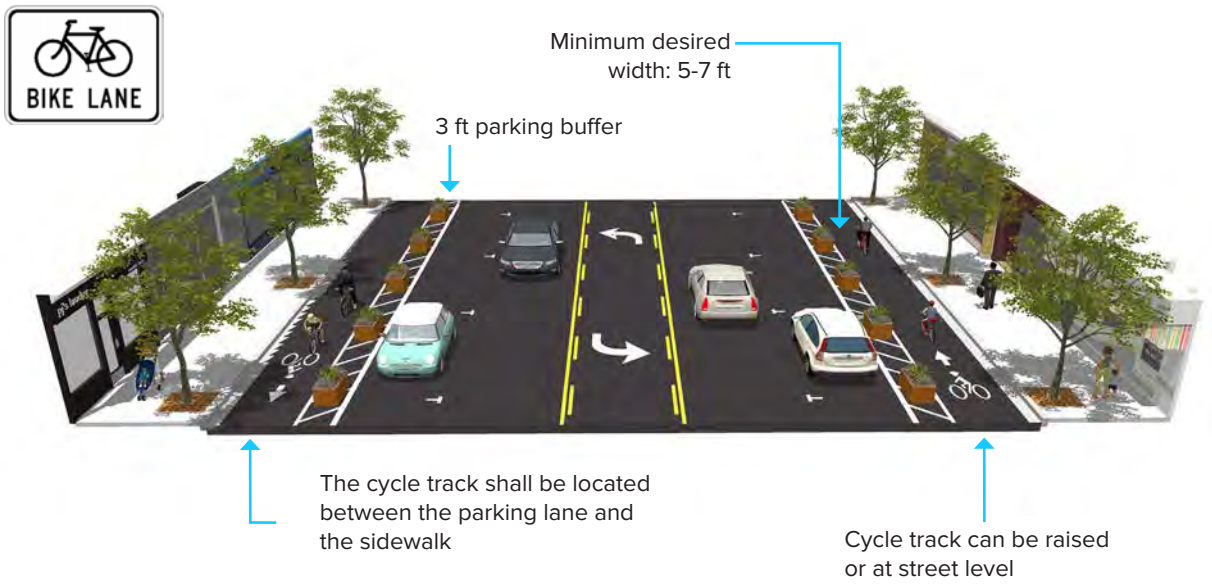
Additional References and Guidelines

NACTO Urban Bikeway Design Guide, 2014.

CA MUTCD. 2014, Revision 2.

Separated Bikeway/Cycle Track

R81 (CA)



Description

Cycle tracks, which were recently designated as Class IV facilities in California, are an exclusive bike facility that combines the user experience of a separated path with the on-street infrastructure of a conventional bike lane. A cycle track is physically separated from motor traffic and distinct from the sidewalk. These differ from buffered lanes in that the bicyclist is separated from the travel lanes by a physical barrier.

Cycle tracks have different forms but all share common elements. They provide space that is intended to be exclusively or primarily used by bicycles, and are separated from motor vehicle travel lanes, parking lanes, and sidewalks. Raised cycle tracks may be at the level of the adjacent sidewalk or set at an intermediate level between the roadway and sidewalk to separate the cycle track from the pedestrian area.

Over the past five years more than 100 new separated bike facilities have been added in the US. This relatively new type of facility has been shown to be effective in increasing the number of bicyclists using the street, increasing safety for bicyclists, pedestrians, and motorists and increasing access to local businesses (Lessons from the Green Lanes: Evaluating Protected Bike Lanes in the US, National Institute for Transportation and Communities, 2014)

Separated bikeways can increase safety and promote proper riding by:

- Defining road space for bicyclists and motorists, reducing the possibility that motorists will stray into the bicyclists' path.
- Discouraging bicyclists from riding on the sidewalk.

Guidance

Cycle tracks should ideally be placed along streets with long blocks and few driveways or mid-block access points for motor vehicles.

One-Way Cycle Tracks

NACTO Guidelines recommend a 7 foot minimum to allow passing, 5 foot minimum width in constrained locations. Note: In accordance with AB 1193, signed in 2014, the local agency must pass a resolution to adopt NACTO Guidelines in lieu of the Caltrans Highway Design Manual if the one-way cycle track width is less than 9 feet.

One way cycle tracks can be either conventional flow (i.e., go the same direction as the adjacent traffic) or contra-flow (opposite direction of adjacent traffic flow, such as to the left side of traffic on a one-way street).

R81 (CA)

Two-Way Cycle Tracks

Cycle tracks located on one-way streets have fewer potential conflict areas than those on two-way streets.

Twelve foot recommended minimum for two-way facility. 8 foot minimum in constrained locations. Note: In accordance with AB 1193, signed in 2014, the local agency must pass a resolution to adopt NACTO Guidelines in lieu of the Caltrans Highway Design Manual if the two-way cycle track width is less than 12 feet.

Discussion

Special consideration should be given at transit stops to manage bicycle and pedestrian interactions. Driveways and minor street crossings are unique challenges to cycle track design. Parking should be prohibited within 30 feet of the intersection to improve visibility.

Materials and Maintenance

Depending on the width, barrier-separated and raised cycle tracks may require smaller equipment for sweeping. In cities with winter climates, barrier separated and raised cycle tracks may require special equipment for snow removal.

Additional References and Guidelines

NACTO. Urban Bikeway Design Guide. 2014

Lessons from the Green Lanes: Evaluating Protected Bike Lanes in the US, National Institute for Transportation and Communities, 2014

Caltrans Design Information Bulletin Number 89, 2015

Separated Bikeways at Intersections

Intersections are junctions at which different modes of transportation meet and facilities overlap. An intersection facilitates the interchange between bicyclists, motorists, pedestrians and other modes in order to advance traffic flow in a safe and efficient manner. Designs for intersections with bicycle facilities should reduce conflict between bicyclists (and other vulnerable road users) and vehicles by heightening the level of visibility, denoting clear right-of-way and facilitating eye contact and awareness with other modes.

Intersection treatments can improve both queuing and merging maneuvers for bicyclists, and are often coordinated with timed or specialized signals. The configuration of a safe intersection for bicyclists may include elements such as color, signage, medians, signal detection and pavement markings. Intersection design should take into consideration existing and anticipated bicyclist, pedestrian and motorist movements. In all cases, the degree of mixing or separation between bicyclists and other modes is intended to reduce the risk of crashes and increase bicyclist comfort. The level of treatment required for bicyclists at an intersection will depend on the bicycle facility type used, whether bicycle facilities are intersecting, and the adjacent street function and land use.

Bike Lanes and Right Turn Only Lanes

Colored Bike Lanes in Conflict Areas

Combined Bike lane/Turn Lane

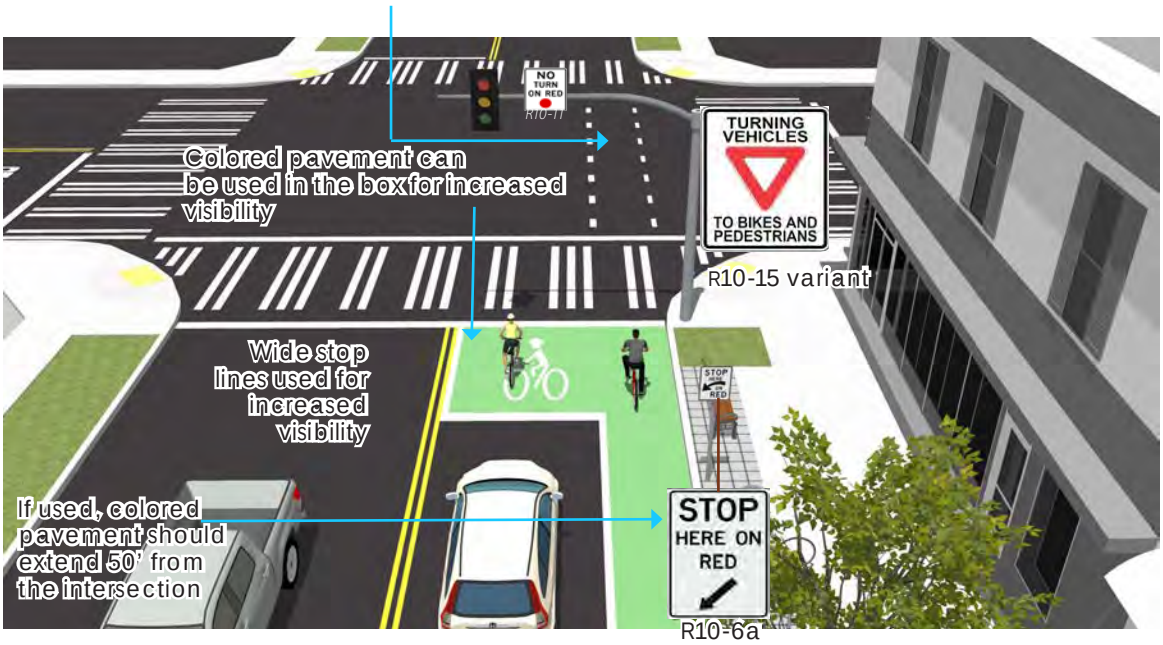
Intersection Crossing Markings

Bike Boxes

Bike Lanes at High Speed Interchanges

Bike Box

May be combined with intersection crossing markings and colored bike lanes in conflict areas



Description

A bike box is a designated area located at the head of a traffic lane at a signalized intersection that provides bicyclists with a safe and visible space to get in front of queuing motorized traffic during the red signal phase. Motor vehicles must queue behind the white stop line at the rear of the bike box.

Guidance

Bike boxes are currently experimental treatments and require more data before an official ruling is made by the FHWA. Obtaining experimental approval is a 4-6 week process and evaluation of the treatment is performed for a minimum of one year.

- 10-16 foot depth. Deeper boxes show less encroachment by motor vehicles.
- A "Stop Here on Red" sign should be posted at the stop line to reinforce observance of the stop line.
- A "Yield to Bikes" sign should be post-mounted in advance of and in conjunction with an egress lane to reinforce that bicyclists have the right-of-way going through the intersection.
- An ingress lane should be used to provide access to the box.
- A supplemental "Wait Here" legend can be provided in advance of the stop bar to increase clarity to motorists.
- Requires permission to experiment from the Federal Highways Administration.

Discussion

Bike boxes should be placed only at signalized intersections, and right turns on red shall be prohibited for motor vehicles. Bike boxes should be used in locations that have a large volume of bicyclists and are best utilized in central areas where traffic is usually moving more slowly.

Materials and Maintenance

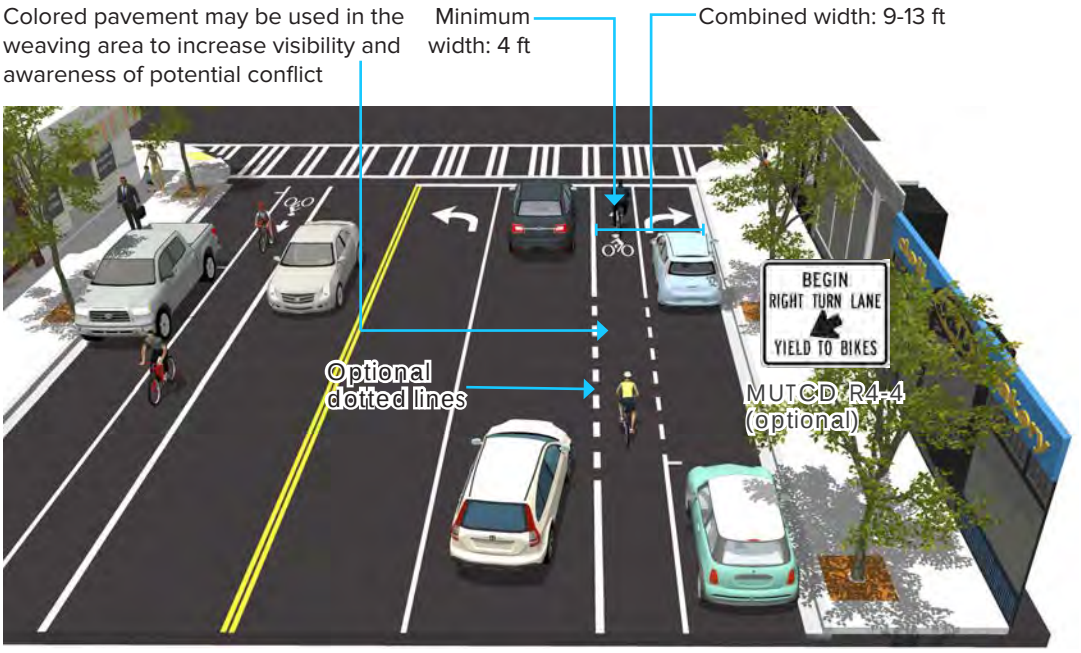
Because the effectiveness of markings depends entirely on their visibility, maintaining markings should be a high priority.

Additional References and Guidelines

NACTO. Urban Bikeway Design Guide. 2014.

FHWA MUTCD. Interpretations, Experimentations, Changes and Interim Approval (IA-14). 2011.

Bike Lanes at Right Turn Only Lanes



Description

The appropriate treatment at right-turn lanes is to place the bike lane between the right-turn lane and the right-most through lane or, where right-of-way is insufficient, to use a shared bike lane/turn lane. The design (right) illustrates a bike lane pocket, with signage indicating that motorists should yield to bicyclists through the conflict area.

Guidance

At auxiliary right turn only lanes (add lane):

- Continue existing bike lane width; standard width of 5 to 6 feet or 4 feet in constrained locations.
- Use signage to indicate that motorists should yield to bicyclists through the conflict area.
- Consider using colored conflict areas to promote visibility of the mixing zone. Where a through lane becomes a right turn lane:
- Do not define a dotted line merging path for bicyclists.
- Drop the bicycle lane in advance of the merge area.
- Use shared lane markings to indicate shared use of the lane in the merging zone

Discussion

For other potential approaches to providing accommodations for bicyclists at intersections with turn lanes, please see combined bike lane/turn lane, bicycle signals, and colored bike facilities.

Materials and Maintenance

Because the effectiveness of markings depends entirely on their visibility, maintaining markings should be a high priority.

Additional References and Guidelines

AASHTO. Guide for the Development of Bicycle Facilities. 2012.

California MUTCD. 2014, Revision 2.

NACTO. Urban Bikeway Design Guide. 2014.

Caltrans. California HDM. 2016.

Caltrans. Complete Intersections. 2010.

Colored Bike Lanes in Conflict Areas

Description

The Federal Highway Administrative (FHWA) has granted the State of California approval for optional use of green colored pavement in marked bicycle lanes and in extensions of bicycle lanes through intersections and other traffic conflict areas. It should be noted that the green colored pavement as described under this approval is used for two different situations: first, to denote a lane that is exclusively used for bicyclists and second, to advise motorists and bicyclists that they are sharing the same patch of pavement and should be aware of each other's presence.

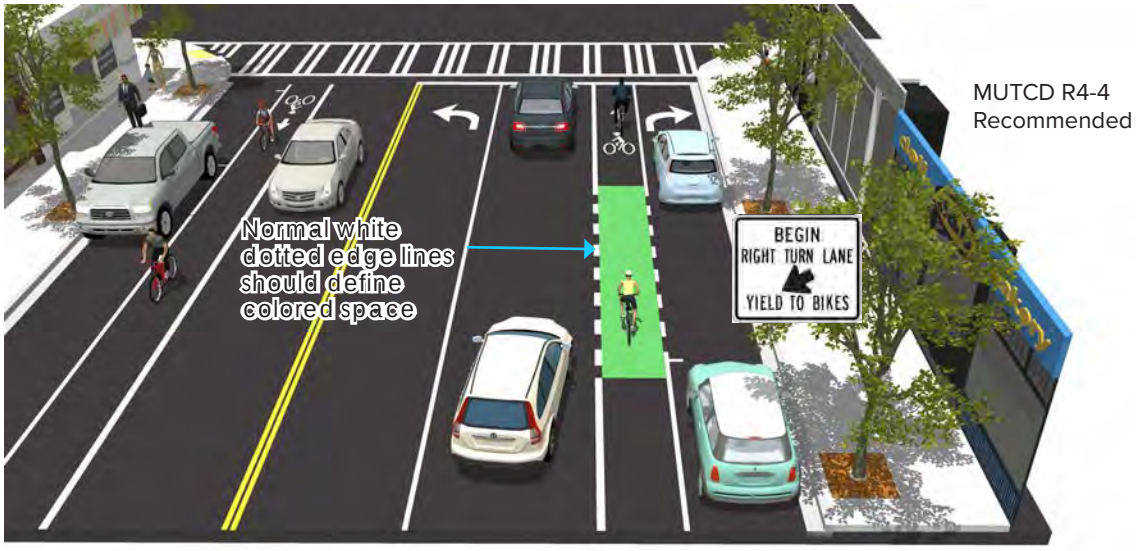
Local agencies have adopted different philosophies on the usage of green colored pavement. Some agencies use green colored pavement only for Class II lanes where bicyclists have exclusive use, and leave the conflict zones uncolored. Other agencies use the green colored pavement only in conflict zones, such as the weave shown in the figure below.

Guidance

Jurisdiction must notify Caltrans where the treatment is being installed as part of FHWA's conditions to maintain an inventory list.

At auxiliary right turn only lanes (add lane):

- Continue existing bike lane width; standard width of 5 to 6 feet or 4 feet in constrained locations.
- Use signage to indicate that motorists should yield to bicyclists through the conflict area.
- Consider using colored conflict areas to promote visibility of the mixing zone. Where a through lane becomes a right turn lane:
- Do not define a dotted line merging path for bicyclists.
- Drop the bicycle lane in advance of the merge area.
- Use shared lane markings to indicate shared use of the lane in the merging zone



MUTCD R4-4
Recommended

Discussion

The best practices for green colored pavement are still evolving. As of this date, more agencies use green colored pavement for conflict zones than for exclusive bicyclist lanes. The amount of green paint used by such agencies varies dramatically. Some agencies fill the entire conflict zone with solid green paint, while others use a pattern of green stripes. Some agencies use green colored pavement across every driveway, alley and cross streets, while others reserve the use of green colored pavement for conflict zones that merit special attention. The precise design of green colored pavement remains at the discretion of the local agencies.

It should be noted that the combination of a shared lane marking ("sharrow") within green colored pavement, is no longer approved for new experimentation by the FHWA. However, the FHWA may accept for experimentation the use of green colored pavement as a "background conspicuity enhancement".

Materials and Maintenance

Because the effectiveness of markings depends entirely on their visibility, maintaining markings should be a high priority.

Additional References and Guidelines

AASHTO. Guide for the Development of Bicycle Facilities. 2012.

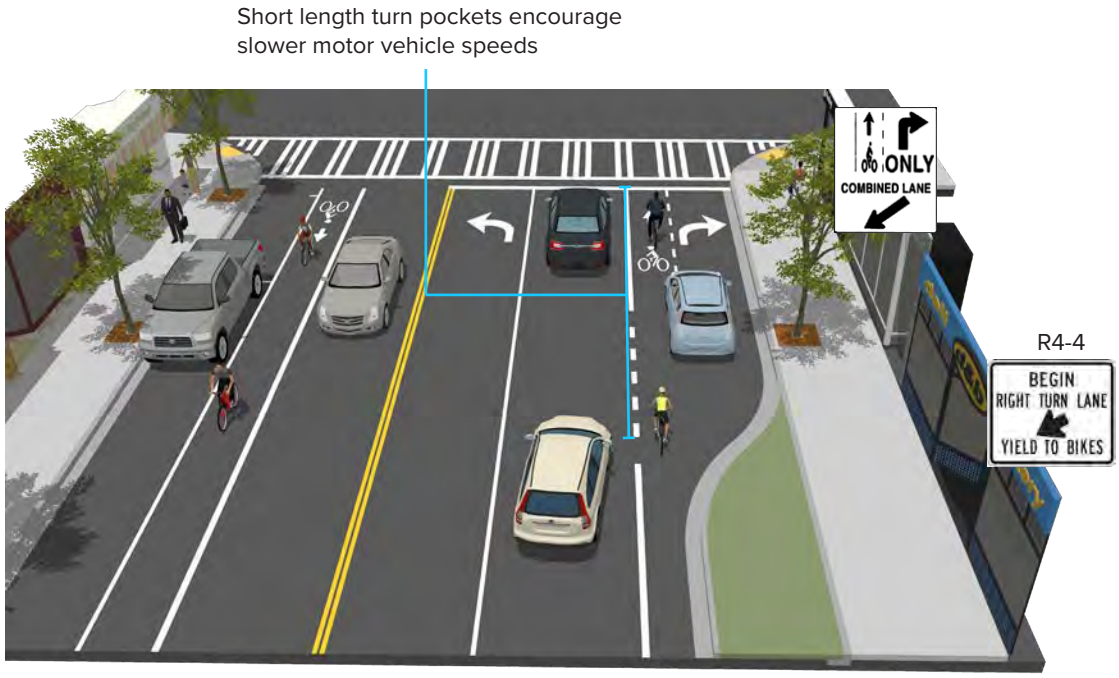
California MUTCD. 2014, Revision 2.

NACTO. Urban Bikeway Design Guide. 2014.

Caltrans. California HDM. 2016.

Caltrans. Complete Intersections. 2010.

Combined Bike Lane/Turn Lane (Advisory Bike Lanes)



Description

The combined bicycle/right turn lane places a standard-width bike lane on the left side of a dedicated right turn lane. A dotted line delineates the space for bicyclists and motorists within the shared lane. This treatment includes signage advising motorists and bicyclists of proper positioning within the lane. This treatment is recommended at intersections lacking sufficient space to accommodate both a standard through bike lane and right turn lane.

Guidance

The FHWA has disallowed the experimental use of combined bike lane/turn lane markings. Previously, installations were as follows:

Maximum shared turn lane width is 13 feet; narrower is preferable.

Bike Lane pocket should have a minimum width of 4 feet with 5 feet preferred.

A dotted 4 inch line and bicycle lane marking should be used to clarify bicyclist positioning within the combined lane, without excluding cars from the suggested bicycle area.

A "Right Turn Only" sign with an "Except Bicycles" plaque may be needed to make it legal for through bicyclists to use a right turn lane.

Discussion

Unless the FHWA resumes granting permission to experiment with a combined bike lane/turn lane, this treatment will not be recommended.

Materials and Maintenance

Because the effectiveness of markings depends on their visibility, maintaining markings should be a high priority.

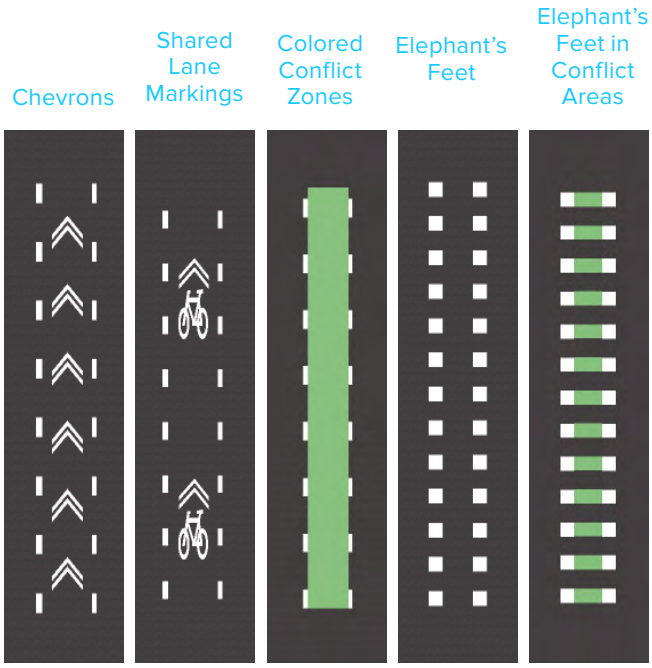
Additional References and Guidelines

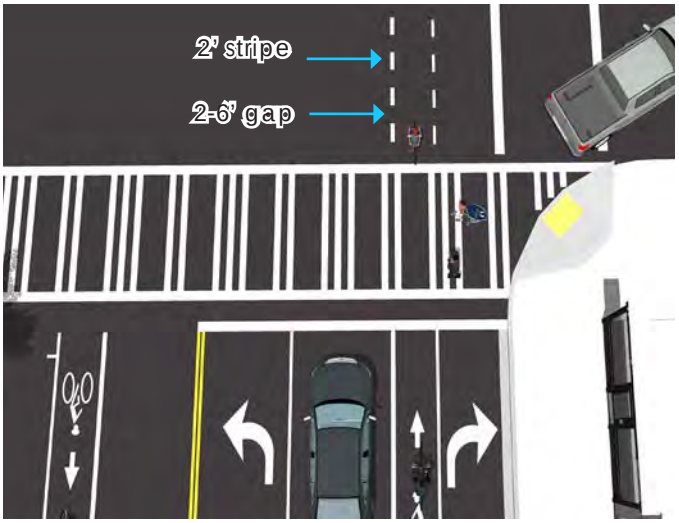
NACTO. Urban Bikeway Design Guide. 2014.

AASHTO. Guide for the Development of Bicycle Facilities. 2012.

Alta Planning + Design. Advisory Bike Lanes in North America, 2017.

Intersection Crossing Markings





Description

Bicycle pavement markings through intersections indicate the intended path of bicyclists through an intersection or across a driveway or ramp. They guide bicyclists on a safe and direct path through the intersection and provide a clear boundary between the paths of through bicyclists and either through or crossing motor vehicles in the adjacent lane.

Guidance

See MUTCD Section 3B.08: "dotted line extensions"

Crossing striping shall be at least six inches wide when adjacent to motor vehicle travel lanes.

Dotted lines should be two-foot lines spaced two to six feet apart.

Chevrons, shared lane markings, or colored bike lanes in conflict areas may be used to increase visibility within conflict areas or across entire intersections.

Discussion

Additional markings such as chevrons, shared lane markings, or colored bike lanes in conflict areas are strategies currently in use in the United States and Canada. Cities considering the implementation of markings through intersections should standardize future designs to avoid confusion.

Materials and Maintenance

Because the effectiveness of marked crossings depends entirely on their visibility, maintaining marked crossings should be a high priority.

Additional References and Guidelines

AASHTO. Guide for the Development of Bicycle Facilities. 2012.

California MUTCD. 2014, Revision 2.

NACTO. Urban Bikeway Design Guide. 2014.

Two-Stage Turn Box

Description

A two-stage turn box offers bicyclists a safe way to make left turns at multi-lane signalized intersections from a right side cycle track or bike lane. Bicyclists are often reluctant to weave into traffic to turn left. A two-stage left turn box allows bicyclists to continue straight while the traffic signal displays green for the original direction of travel, during one stage of a traffic signal, and then wait for the second stage when the cross street receives a green light to complete the move.

Guidance

- A two-stage turn box to facilitate a jughandle turn at a T-interection is presently allowed in the Federal and California MUTCD's.
- A two-stage turn box for use other than for a jughandle turn at a T-intersection is experimental. Required design elements include a bicycle symbol pavement marking, a pavement marking turn or through arrow, full-time turn on red prohibition for the cross street, and passive detection of bicycles if the signal phase that permits bicyclists to enter the intersection during the second stage of their turn is actuated.
- Green colored pavement is optional.

Discussion

While two stage turns may increase bicyclist comfort in many locations, this configuration typically results in higher average signal delay for bicyclists versus a vehicular style left turn maneuver.

Materials and Maintenance

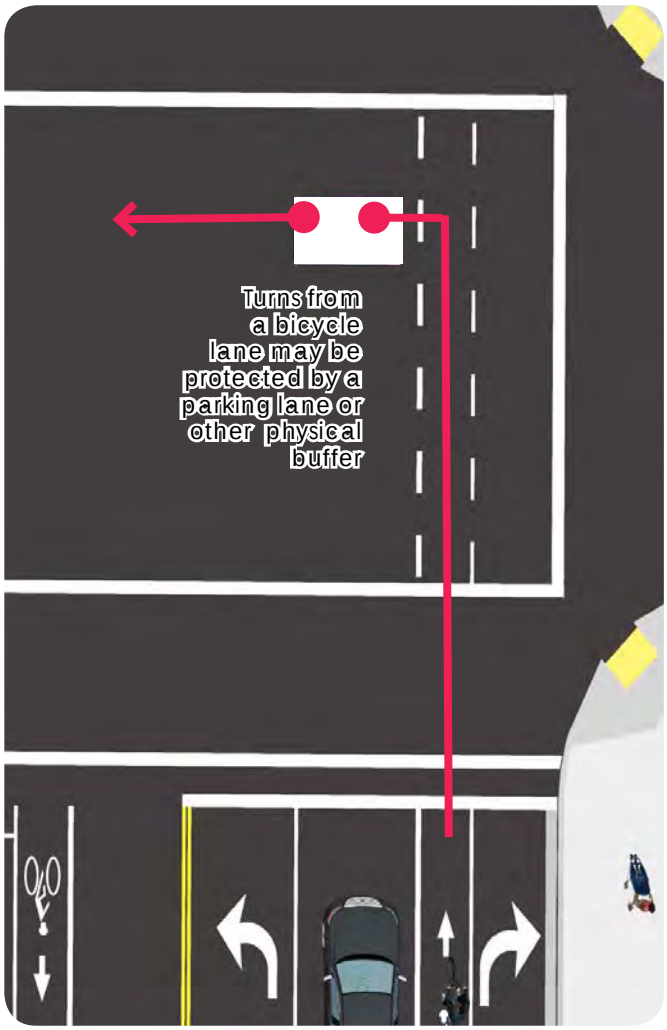
Paint can wear more quickly in high traffic areas or in winter climates.

Additional References and Guidelines

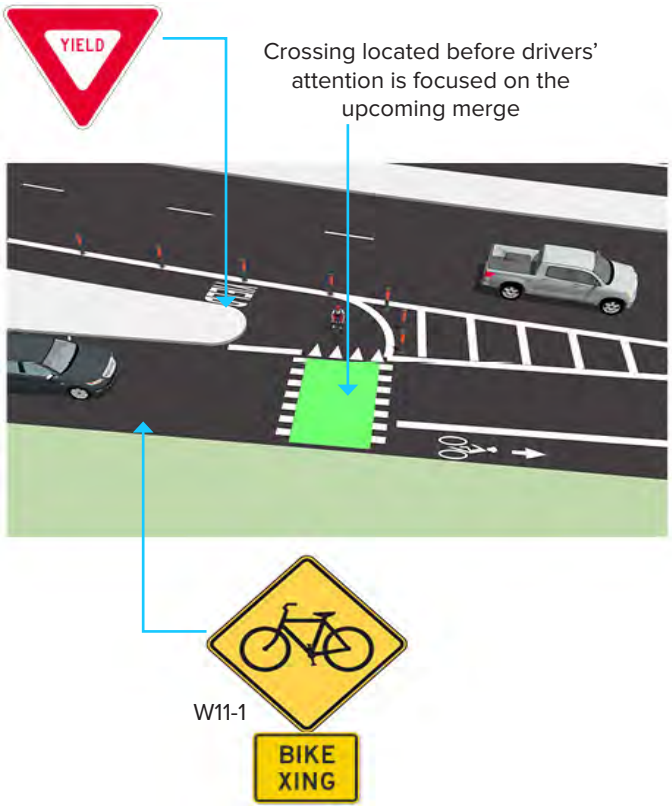
NACTO. Urban Bikeway Design Guide. 2014.

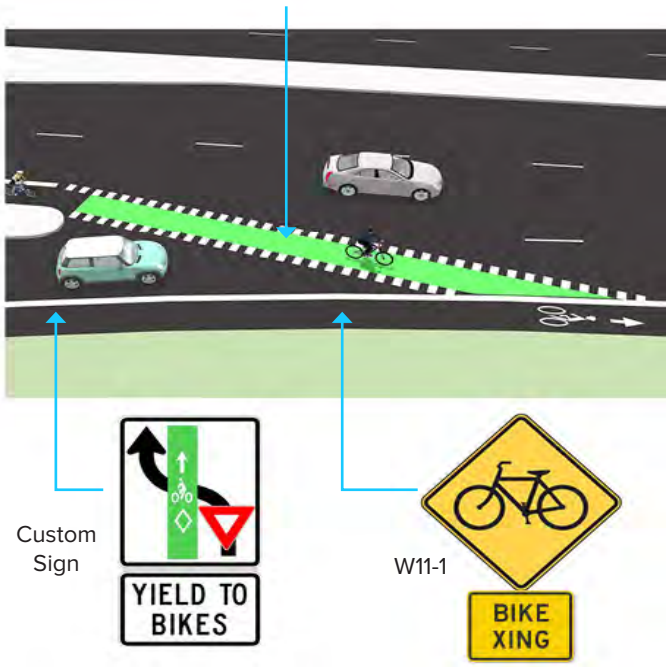
FHWA. MUTCD-Interim Approval for Optional Use of Two-Stage Bicycle Turn Boxes (IA-20). 2017.

Turns from a bicycle lane may be protected by an adjacent parking lane or crosswalk setback space



Bike Lanes at Diverging Ramp Lanes





Description

Some arterials may contain high speed free-way-style design such as merge lanes and exit ramps, which can create difficulties for bicyclists. The entrance and exit lanes typically have intrinsic visibility problems because of low approach angles and feature high speed differentials between bicyclists and motor vehicles. Strategies to improve safety focus on increasing sight distances, creating formal crossings, and minimizing crossing distances.

Guidance

Entrance Ramps

Angle the bike lane to increase the approach angle with entering traffic. Position crossing before drivers' attention is focused on the upcoming merge.

Exit Ramps

Use a jug handle turn to bring bicyclists to increase the approach angle with exiting traffic, and add yield striping and signage to the bicycle approach.

Discussion

Green colored pavement is optional.

Materials and Maintenance

Paint can wear more quickly in high traffic areas or in winter climates. Locate crossing markings out of wheel tread when possible to minimize wear and maintenance costs.

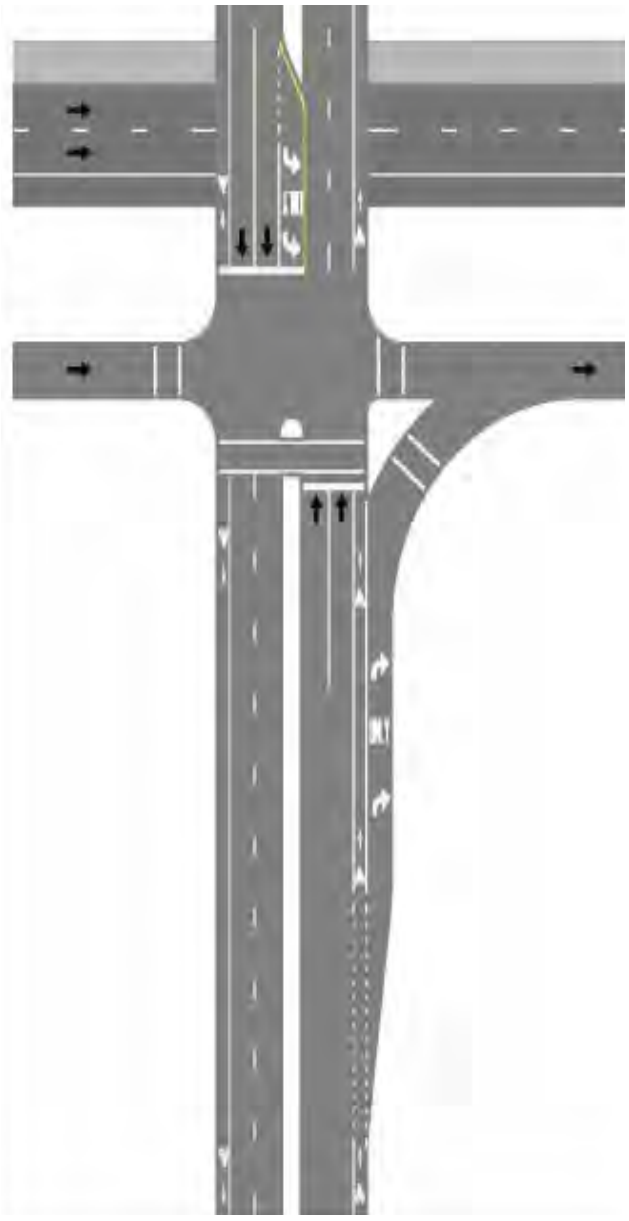
Additional References and Guidelines

California MUTCD. 2014, Revision 2.

AASHTO. Guide for the Development of Bicycle Facilities. 2012.

Caltrans. Complete Intersections. 2010.

Freeway Interchange Design



Description

Freeway Interchanges can be significant obstacles to bicycling if they are poorly designed. Travel through some interchange designs may be particularly challenging for youth bicyclists. Key design features at conflict areas through interchanges should be included to improve the experience for bicyclists.

Guidance

Entrance Ramps

- A right-turn lane should be configured with a taper as an "add-lane" for motorists turning right onto the freeway entrance ramp.
- A bike lane should be provided along the left side of the right turn lane. Dotted through bike lane striping provides clear priority for bicyclists at right turn 'add lane' on-ramps.

Exit Ramps

- Motorists exiting the freeway and turning onto the crossroad should be controlled by a stop sign, signal, or yield sign, rather than allowing a free flowing movement.

Discussion

The on-ramps should be configured as a right-turn-only "add lane" to assert through bicyclist priority. Designs that are functional for bicycle passage typically encourage slowing or require motor vehicle traffic to slow or stop. Designs that encourage high-speed traffic movements are difficult for bicyclists to negotiate.

Materials and Maintenance

Locate crossing markings out of wheel tread when possible to minimize wear and maintenance costs.

Additional References and Guidelines

AASHTO. Guide for the Development of Bicycle Facilities. 2012.

California MUTCD. 2014, Revision 2.

Caltrans. Complete Intersections. 2010.

Railroad Crossings

Description

Railroad crossings are intersections where a railway line crosses a road or path at the same level. Bikeways are often located on roads with these crossings, which is why railroad crossings should be designed to allow bicycles to cross safely. Making these streets safe for bicyclists is critical for preserving access to local destinations and it is often important for bicycle network connectivity.

Guidance

According to NACTO Transit Street Design Guide, bicyclists must be directed to cross tracks at a high angle when bicycle paths cross a street-surface rail track.

- While 90-degree crossings are preferred, 60 degrees in the minimum design angle for bikeways to cross in-street trails.
- Bicyclists must be able to cross tracks fully upright and not leaning, with perpendicular approaches established in advance of tracks to allow riders to right themselves.
- Crossing tracks at an angle less than 45 degrees should be discouraged.
- Warning signage or markings should be used ahead of the intersection where the natural travel path of a bicyclist would cross the rail at a low angle.

Discussion

A problem with railroad crossings is that bicycle tires can become stuck in rail flanges when in-street tracks are crossed at too low an angle, which may cause the rider to fall. It is important that the crossing be designed to allow bikes to safely cross as close to perpendicular to tracks as possible.

Materials and Maintenance

Concrete or rubberized crossings are recommended for crossings to minimize the possibility of a bicycle tire getting stuck.

Additional Referecnce and Guidelines

NACTO. Transit Street Design Guide. 2016

City of Minneapolis Bicycle Facility Design Guidelines, 2010.

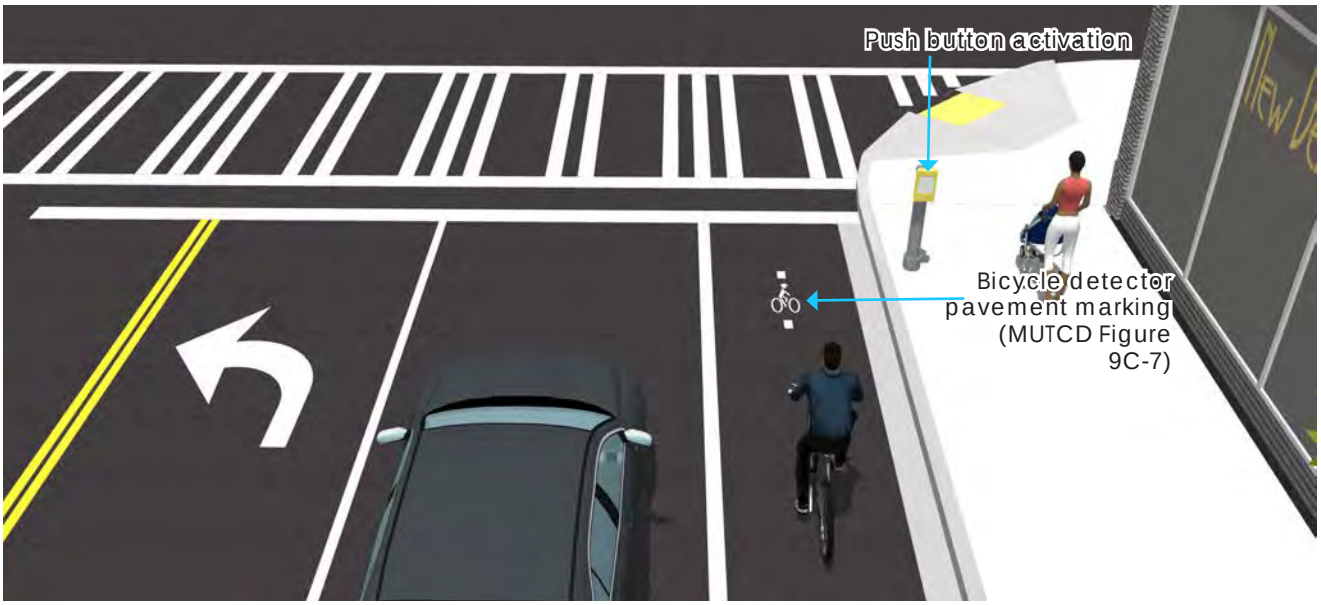
Signalization

Determining which type of signal or beacon to use for a particular intersection depends on a variety of factors. These include speed limits, Average Daily Traffic (ADT), anticipated bicycle crossing traffic, and the configuration of planned or existing bicycle facilities. Signals may be necessary as part of the construction of a protected bicycle facility such as a cycle track with potential turning conflicts, or to decrease vehicle or pedestrian conflicts at major crossings. An intersection with bicycle signals may reduce stress and delays for a crossing bicyclist, and discourage illegal and unsafe crossing maneuvers.

Bicycle Detection and Actuation

Bicycle Signal Head

Bicycle Detection and Actuation



Push Button Actuation

A bicyclist pushbutton may be used to supplement the required limit line detectors. These buttons should be mounted in a location that permits their activation by a bicyclist without having to dismount.

Loop Detectors or Video Detectors

For signalized intersection movements that do not normally receive a green light unless actuated by a car or pedestrian, the California Vehicle Code requires installation of detectors capable of detecting bicyclists at the limit line. This is most commonly handled with either inductive loop detectors or with video detection. Traffic actuated signals should be sensitive to bicycles, should be located in the bicyclist's expected path, and stenciling should direct the bicyclist to the point where the bicycle will be detected. This allows the bicyclist to stay within the lane of travel without having to maneuver to the side of the road to trigger a push button.

Remote Traffic Microwave Sensor Detection (RTMS)

RTMS is a system which uses frequency modulated continuous wave radio signals to detect objects in the roadway. This method marks the detected object with a time code to determine its distance from the sensor. The RTMS system is unaffected by temperature and lighting, which can affect standard video detection.

Discussion

Proper bicycle detection should meet two primary criteria: 1) accurately detects bicyclists and 2) provides clear guidance to bicyclists on how to actuate detection (e.g., what button to push, where to stand). The requirement for bicycle detection at all new and modified approaches to traffic signals is included in the CA MUTCD 2014.

Materials and Maintenance

Signal detection and actuation for bicyclists should be maintained with other traffic signal detection and roadway pavement markings.

Additional References and Guidelines

AASHTO. Guide for the Development of Bicycle Facilities. 2012.

NACTO. Urban Bikeway Design Guide. 2014.

California MUTCD. 2014, Revision 2.

Caltrans. Policy Directive 09-06. 2009.

Caltrans. Complete Intersections. 2010.

Bicycle Signal Heads

Description

The California MUTCD authorizes the use of bicycle signal heads only at the locations that meet Caltrans Bicycle Signal Warrants. FHWA's Interim Approval IA-I6, dated December 24, 2013, specifies a more detailed application of bicycle signal indications. Bicycle signal heads may be used for a movement that is not in conflict with any simultaneous motor vehicle movements at a signalized intersection, including right or left turns on red. The bicycle movement may not be modified by lane-use signs, turn prohibition signs, pavement markings, separate turn signal indications, or other traffic control devices.

The size of signal lenses may be 4 inches, 8 inches, or 12 inches, with the 4-inch lens size reserved only for supplemental near side mountings.

Bicycle Signal Head

Guidance

California MUTCD Bicycle Signal Warrant is based off bicyclist volumes, collision history, or geometric warrants:

- Those with high volume of bicyclists at peak hours
- Those with high numbers of bicycle/motor vehicle crashes, especially those caused by turning vehicle movements
- Where a multi-use path intersects a roadway
- At locations to facilitate a bicycle movement that is not permitted for a motor vehicle

Discussion

For improved visibility, smaller (4 inch lens) near-sided bicycle signals should be considered to supplement far-side signals.

Materials and Maintenance

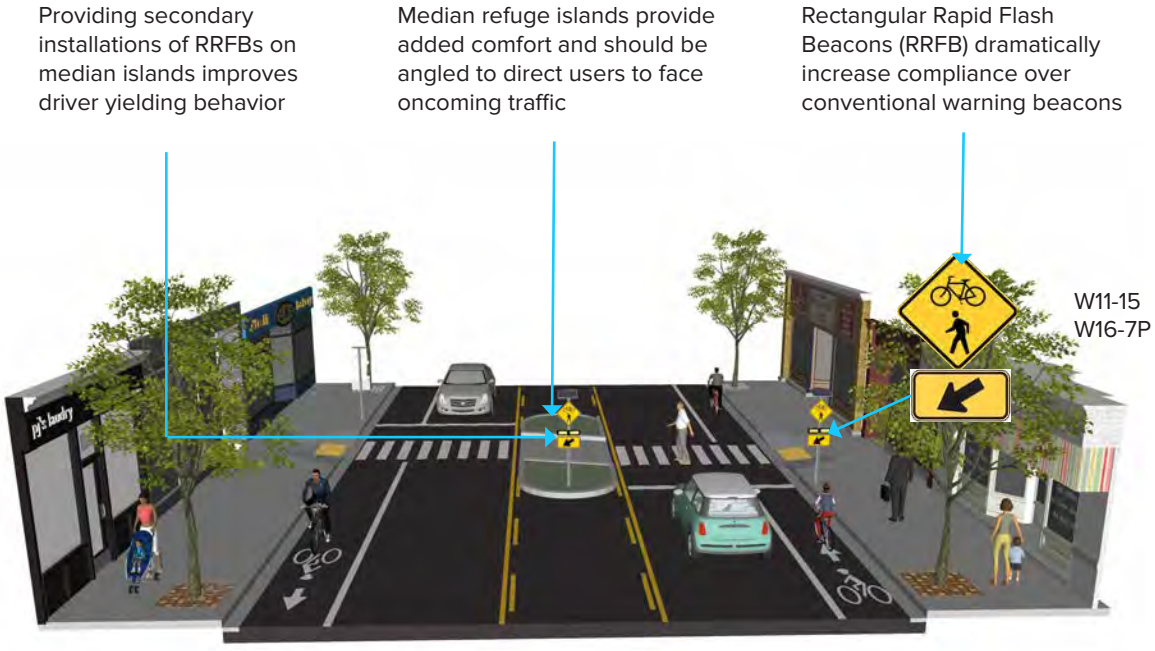
Bicycle signal heads require the same maintenance as standard traffic signal heads, such as replacing bulbs and responding to power outages.

Additional References and Guidelines

FHWA Interim Approval IA-I6, 2013.

California MUTCD. 2014, Revision 2.

Active Warning Beacons



Description

Active warning beacons are user actuated illuminated devices designed to increase motor vehicle yielding compliance at crossings of multi lane or high volume roadways. Types of active warning beacons include conventional circular yellow flashing beacons, in roadway warning lights, or Rectangular Rapid Flash Beacons (RRFB). RRFBs have blanket approval in California per FHWA MUTCD IA11.

Guidance

Warning beacons shall not be used at crosswalks controlled by YIELD signs, STOP signs or traffic signals.

Warning beacons shall initiate operation based on pedestrian or bicyclist actuation and shall cease operation at a predetermined time after actuation or, with passive detection, after the pedestrian or bicyclist clears the crosswalk.

Discussion

Rectangular rapid flash beacons have the highest compliance of all the warning beacon enhancement options. A study of the effectiveness of going from a no-beacon arrangement to a two-beacon RRFB installation increased yielding from 18 percent to 81 percent. A four-beacon arrangement raised compliance to 88 percent.

Materials and Maintenance

Depending on power supply, maintenance can be minimal. If solar power is used, RRFBs can run for years without issue.

Additional References and Guidelines

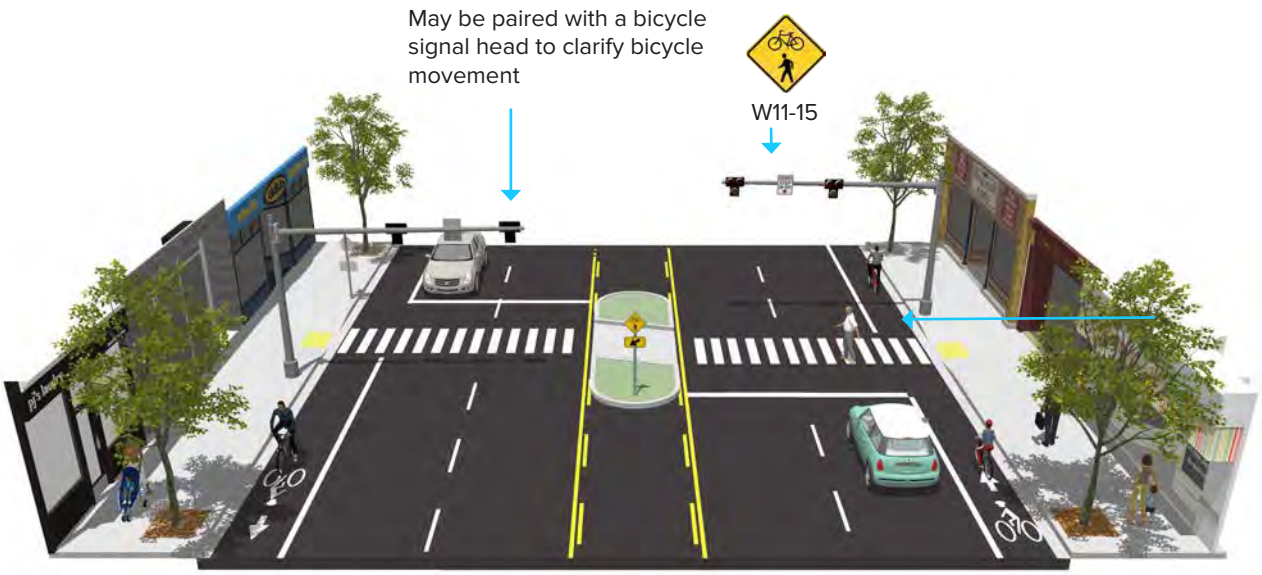
NACTO. Urban Bikeway Design Guide. 2014.

California MUTCD. 2014, Revision 2

FHWA. Interim Approval (IA-11). 2008.

Caltrans. Complete Intersections. 2010.

Pedestrian Hybrid Beacons



Description

A pedestrian hybrid beacon, previously known as a High-intensity Activated CrossWalK (HAWK), consists of a signal-head with two red lenses over a single yellow lens on the major street, and pedestrian and/or bicycle signal heads for the minor street. There are no signal indications for motor vehicles on the minor street approaches. Pedestrian hybrid beacons are used to improve non-motorized crossings of major streets in locations where side-street volumes do not support installation of a conventional traffic signal or where there are concerns that a conventional signal will encourage additional motor vehicle traffic on the minor street. Hybrid beacons may also be used at mid-block crossing locations.

Guidance

Pedestrian hybrid beacons may be installed without meeting traffic signal control warrants. The need should be considered on the basis of an engineering study that considers speed, major-street volumes and gaps.

If installed within a signal system, signal engineers should evaluate the need for the pedestrian hybrid beacon to be coordinated with other signals.

Parking and other sight obstructions should be prohibited for at least 100 feet in advance of and at least 20 feet beyond the marked crosswalk.

Discussion

An alternative to a pedestrian hybrid beacon is a standard signal face that displays a flashing red indication during the pedestrian clearance phase. The advantage of a standard signal face is that it displays no dark indications that could be interpreted by a motorist to be a symptom of a power outage that requires coming to a stop.

Materials and Maintenance

Signing and striping need to be maintained to help users understand any unfamiliar traffic control.

Additional References and Guidelines

California MUTCD. 2014.

Bikeway Signing

The ability to navigate through a city is informed by landmarks, natural features and other visual cues.

Signs throughout the city should indicate to bicyclists:

- Direction of travel
- Location of destinations
- Travel time/distance to those destinations

These signs will increase users' comfort and accessibility to the bicycle systems.

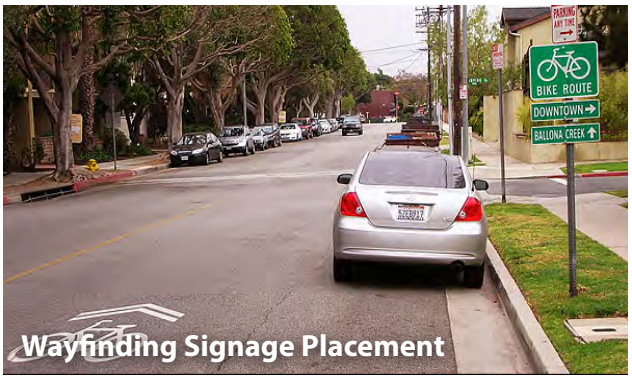
Signage can serve both wayfinding and safety purposes including:

- Helping to familiarize users with the bicycle network
- Helping users identify the best routes to destinations
- Helping to address misconceptions about time and distance
- Helping overcome a "barrier to entry" for people who are not frequent bicyclists (e.g., "interested but concerned" bicyclists)

A community-wide bicycle wayfinding signage plan would identify:

- Sign locations
- Sign type – what information should be included and design features
- Destinations to be highlighted on each sign – key destinations for bicyclists
- May include approximate distance and travel time to each destination Bicycle wayfinding signs also visually cue motorists that they are driving along a bicycle route and should use caution. Signs are typically placed at key locations leading to and along bicycle routes, including the intersection of multiple routes. Too many road signs tend to clutter the right-of-way, and it is recommended that these signs be posted at a level most visible to bicyclists rather than per vehicle signage standards.

Wayfinding Signage



Wayfinding Signage Placement

Wayfinding Sign Types

Description

A bicycle wayfinding system consists of comprehensive signing and/or pavement markings to guide bicyclists to their destinations along preferred bicycle routes. There are three general types of wayfinding signs:

Confirmation Signs

- Indicate to bicyclists that they are on a designated bikeway. Make motorists aware of the bicycle route.
- May include destinations and distance/time. Do not include arrows.

Turn Signs

- Indicate where a bikeway turns from one street onto another street. Can be used with pavement markings.
- Include destinations and arrows.

Decisions Signs

- Mark the junction of two or more bikeways.
- Inform bicyclists of the designated bike route to access key destinations.
- Destinations and arrows are required, distances are optional but recommended.
- The inclusion of bicycle travel time is nonstandard, but is recommended.

Discussion

There is no standard color for bicycle wayfinding signage. Section 1A.12 of the MUTCD establishes the general meaning for signage colors. Green is the color used for directional guidance and is the most common color of bicycle wayfinding signage in the US, including those in the MUTCD.

Materials and Maintenance

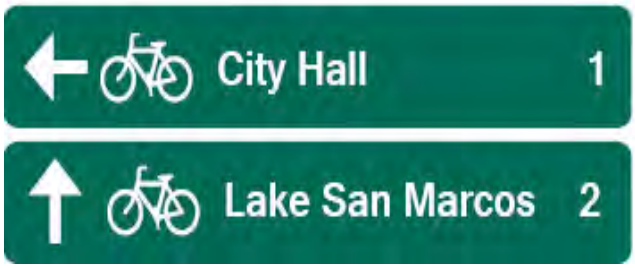
Maintenance needs for bicycle wayfinding signs are similar to other signs and will need periodic replacement due to wear.

Additional References and Guidelines

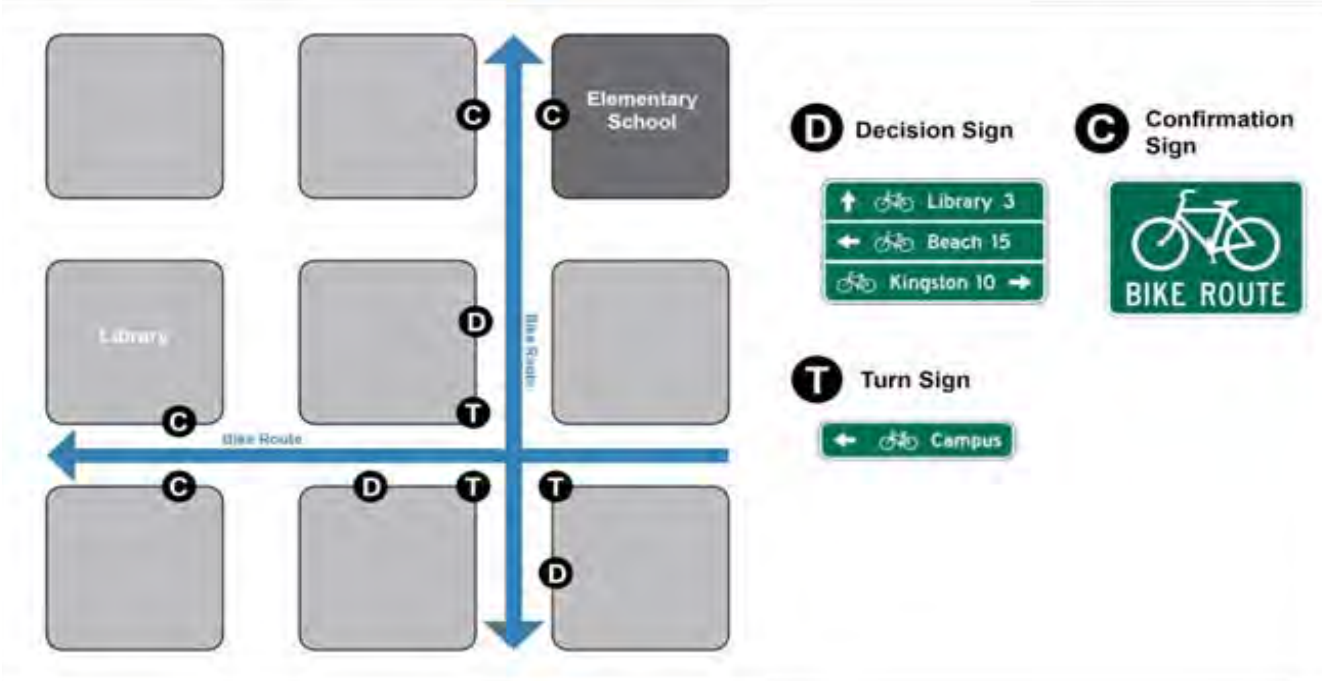
AASHTO. Guide for the Development of Bicycle Facilities. 2012.

California MUTCD. 2014.

NACTO. Urban Bikeway Design Guide. 2014.



Wayfinding Sign Placement



Guidance

Signs are typically placed at decision points along bicycle routes – typically at the intersection of two or more bikeways and at other key locations leading to and along bicycle routes.

Decisions Signs

Near-side of intersections in advance of a junction with another bicycle route.

Along a route to indicate a nearby destination.

Confirmation Signs

Every one-quarter to one-mile on off-street facilities and every 2 to 3 blocks along on-street bicycle facilities, unless another type of sign is used (e.g., within 150 ft of a turn or decision sign). Should be placed soon after turns to confirm destination(s). Pavement markings can also act as confirmation that a bicyclist is on a preferred route.

Turn Signs

Near-side of intersections where bike routes turn (e.g., where the street ceases to be a bicycle route or does not go through). Pavement markings can also indicate the need to turn to the bicyclist.

Discussion

It can be useful to classify a list of destinations for inclusion on the signs based on their relative importance to users throughout the area. A particular destination's ranking in the hierarchy can be used to determine the physical distance from which the locations are signed.

Materials and Maintenance

Maintenance needs for bicycle wayfinding signs are similar to other signs and will need periodic replacement due to wear.

Additional References and Guidelines

AASHTO. Guide for the Development of Bicycle Facilities. 2012.

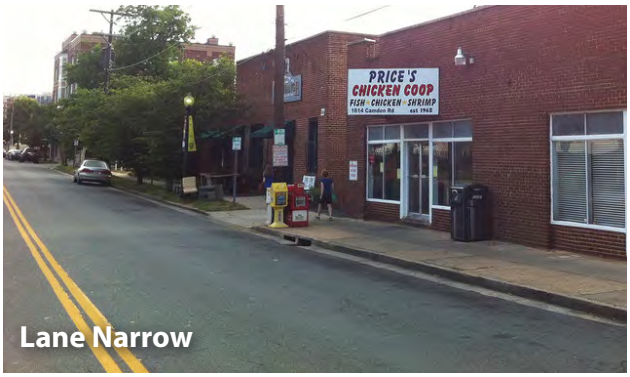
California MUTCD. 2014, Revision 2.

NACTO. Urban Bikeway Design Guide. 2014.

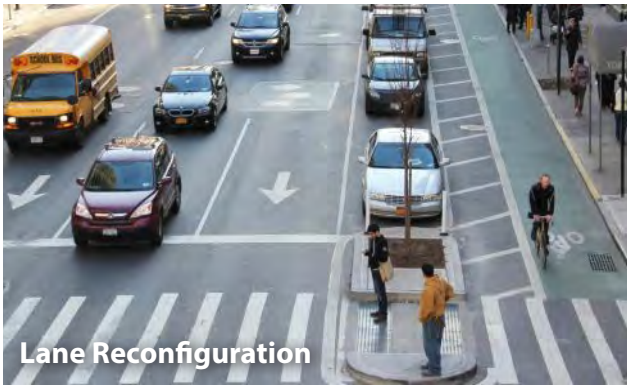
Retrofitting Existing Streets to add Bikeways

Most major streets are characterized by conditions (e.g., high vehicle speeds and/or volumes) for which dedicated bike lanes are the most appropriate facility to accommodate safe and comfortable riding. Although opportunities to add bike lanes through roadway widening may exist in some locations, many major streets have physical and other constraints that would require street retrofit measures within existing curb-to-curb widths. As a result, much of the guidance provided in this section focuses on effectively reallocating existing street width through striping modifications to accommodate dedicated bike lanes.

Although largely intended for major streets, these measures may be appropriate for any roadway where bike lanes would be the best accommodation for bicyclists.

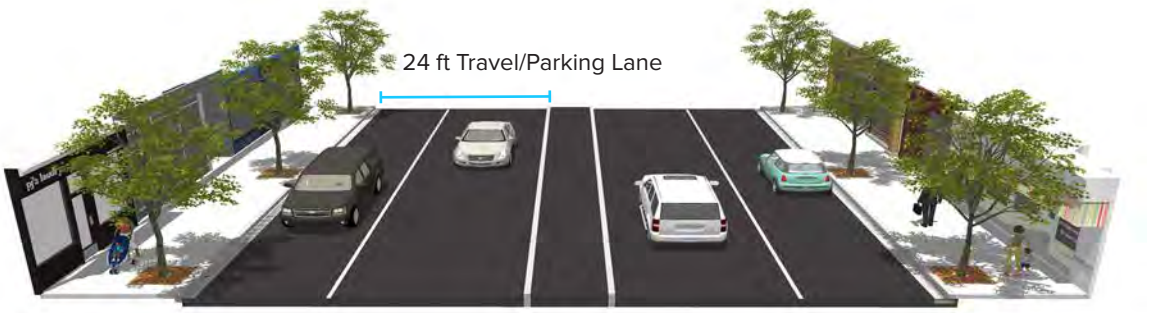


Lane Narrow


Lane Reconfiguration

Lane Narrowing ("Lane Diet")

Before



After

Description

Lane narrowing utilizes roadway space that exceeds minimum standards to provide the needed space for bike lanes. Many roadways have existing travel lanes that are wider than those prescribed in local and national roadway design standards, or which are not marked. The City's Circulation Element identifies 12 foot through lanes. When then the need arises, 10 foot travel lanes may be re-striped to create space for bike lanes.

Guidance

Vehicle lane width:

- Before: 10-15 feet
- After: 10-11 feet

Bicycle lane width:

- Guidance on Bicycle Lanes applies to this treatment

Discussion

Special consideration should be given to the amount of heavy vehicle traffic and horizontal curvature before the decision is made to narrow travel lanes. Center turn lanes can also be narrowed in certain situations to provide space for bike lanes.

Materials and Maintenance

Repair rough or uneven pavement surface.

Additional References and Guidelines

AASHTO. Guide for the Development of Bicycle Facilities. 2012.

AASHTO. A Policy on Geometric Design of Highways and Streets. 2004.

Caltrans. California HDM. 2016.

Caltrans. Main Streets. 2005.

Lane Reconfiguration ("Road Diet")

Description

The removal of a single travel lane will generally provide sufficient space for bike lanes on both sides of a street. Streets with excess vehicle capacity provide opportunities for bike lane retrofit projects.

Guidance

Width depends on project. No narrowing may be needed if a lane is removed.

Bicycle lane width:

Guidance on Bicycle Lanes applies to this treatment.

Discussion

Depending on a street's existing configuration, traffic operations, user needs and safety concerns, various lane reduction configurations may apply. For instance, a four-lane street (with two travel lanes in each direction) could be modified to provide one travel lane in each direction, a center turn lane, and bike lanes.

Materials and Maintenance

Repair rough or uneven pavement surface.

Additional References and Guidelines

AASHTO. Guide for the Development of Bicycle Facilities. 2012.

FHWA. Evaluation of Lane Reduction "Road Diet" Measures on Crashes. 2010.

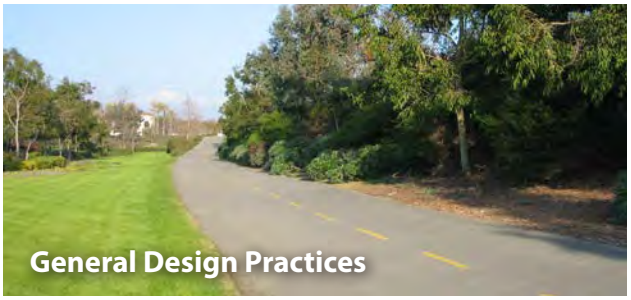
Caltrans. Main Streets. 2005.

Shared Use Paths

A shared-use path allows for two-way, off-street bicycle use and also may be used by pedestrians, skaters, wheelchair users, joggers and other non-motorized users. These facilities are frequently found in parks, along rivers, beaches, and in greenbelts or utility corridors where there are few conflicts with motorized vehicles. Path facilities can also include amenities such as lighting, signage, and fencing (where appropriate).

Key features of greenways include:

- Frequent access points from the local road network.
- Directional signs to direct users to and from the path.
- A limited number of at-grade crossings with streets or driveways.
- Terminating the path where it is easily accessible to and from the street system.
- Separate treads for pedestrians and bicyclists when heavy use is expected.


General Design Practices


Paths in River and Utility Corridors


Paths in Abandoned Rail Corridors


Paths in Active Rail Corridors


Local Neighborhood Accessways

General Design Practices

Description

Shared-use paths can provide a desirable facility, particularly for recreation, and users of all skill levels preferring separation from traffic. Paths should generally provide directional travel opportunities not provided by existing roadways.

Guidance

Width

9 feet is the minimum allowed by the HDM for a one-way Class I multi-use path consisting of a 5-foot paved width with 2-foot shoulders on each side.

12 feet is the minimum allowed by the HDM for a two-way Class I multi-use path consisting of two 4-foot lanes and 2-foot shoulders on each side. On structures, the clear width of a Class I multi-use path between railings shall not be less than 10 feet.

Lateral Clearance

The minimum separation between the edge of pavement of a one-way or a two-way multi-use path and the edge of the travel way of a parallel road or street shall be 5 feet plus the standard shoulder width. Prior to 2012, the Highway Design Manual allowed a narrower separation if a physical barrier is included. Since 2012, however, a physical barrier would not result in a reduced separation.

Overhead Clearance

The minimum vertical clearance allowed by the HDM to obstructions across the width of a multi-use path is 8 feet, and 7 feet over the shoulder.

Striping

When striping is required, use a 4-inch dashed yellow centerline stripe with 4-inch solid white edge lines.

Solid centerlines can be provided on tight or blind corners, and on the approaches to roadway crossings.

Discussion

The AASHTO Guide for the Development of Bicycle Facilities generally recommends against the development of shared use paths along roadways.

Materials and Maintenance

Asphalt is the most common surface for Class I paths. The use of concrete for paths has proven to be more durable over the long term.

Additional References and Guidelines

AASHTO. Guide for the Development of Bicycle Facilities. 2012.

California MUTCD. 2014, Revision 2.

Caltrans. California HDM. 2012.

Paths in River and Utility Corridors

Description

Utility and waterway corridors often offer excellent shared-use path development and bikeway gap closure opportunities. Utility corridors typically include power line and sewer corridors, while waterway corridors include canals, drainage ditches, rivers, and beaches. These corridors offer excellent transportation and recreation opportunities for bicyclists of all ages and skills.

Guidance

Shared-use paths in utility corridors should meet or exceed general design practices, and must conform to the Caltrans Highway Design Manual if designated as a Class I multi-use path. If additional width allows, wider paths, and landscaping are desirable.

Access Points

Any access point to the path should be well-defined with appropriate signage designating the pathway as a bicycle and pedestrian facility and prohibiting motor vehicles.

Path Closure

Public access to the path may be prohibited during the following events:

- Canal/flood control channel or other utility maintenance activities
- Inclement weather or the prediction of storm conditions

Discussion

Similar to railroads, public access to flood control channels or canals is undesirable by all parties. Appropriate fencing may be required to keep path users within the designated travel way. Creative design of fencing is encouraged to make the path facility feel welcoming to the user.

Materials and Maintenance

For paths that are susceptible to flooding or ponding, permeable pavement is an option to reduce water collection.

Additional References and Guidelines

AASHTO. Guide for the Development of Bicycle Facilities. 2012.

California MUTCD. 2014, Revision 2.

Flink, C. Greenways. 1993.

Paths in Abandoned Rail Corridors

Description

Commonly referred to as Rails-to-Trails or Rail-Trails, these projects convert vacated rail corridors into off-street paths. Rail corridors offer several advantages, including relatively direct routes between major destinations and generally flat terrain.

Guidance

Shared-use paths in abandoned rail corridors should meet or exceed general design practices. If additional width allows, wider paths and landscaping are desirable.

In full conversions of abandoned rail corridors, the sub-base, superstructure, drainage, bridges, and crossings are already established. Design becomes a matter of working with the existing infrastructure to meet the needs of a rail-trail.

Discussion

It is often impractical and costly to add material to existing railroad bed fill slopes. This results in trails that meet minimum path widths, but often lack preferred shoulder and lateral clearance widths.

Materials and Maintenance

For paths that are susceptible to flooding or ponding, permeable pavement is an option to reduce water collection.

Additional References and Guidelines

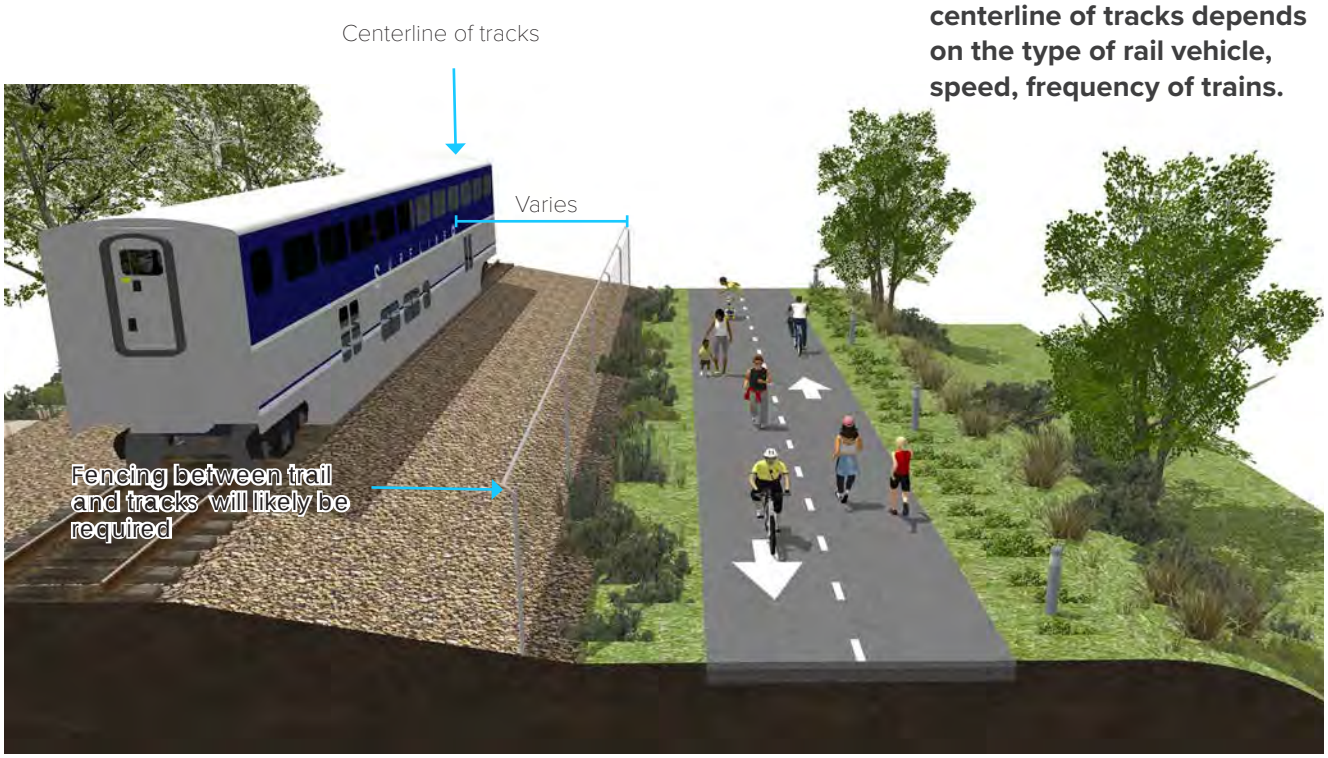
AASHTO. Guide for the Development of Bicycle Facilities. 2012.

California MUTCD. 2014, Revision 2.

Flink, C. Greenways. 1993.

Paths in Active Rail Corridors

Preferred separation from centerline of tracks depends on the type of rail vehicle, speed, frequency of trains.



Description

Rails-with-Trails projects typically consist of paths adjacent to active railroads. It should be noted that some constraints could impact the feasibility of rail-with-trail projects. In some cases, space needs to be preserved for future planned freight, transit or commuter rail service. In other cases, limited right-of-way width, inadequate setbacks, concerns about safety/ trespassing, and numerous mid-block crossings may affect a project's feasibility.

Guidance

Paths in utility corridors should meet or exceed general design standards. If additional width allows, wider paths, and landscaping are desirable.

If required, fencing should be a minimum of 5 feet in height with higher fencing than usual next to sensitive areas such as switching yards. Setbacks from the active rail line will vary depending on the speed and frequency of trains, and available right-of-way. Furthermore, the railroad operators have their own deign criteria regarding separation from multi-use paths.

Discussion

Railroads typically require fencing with all rail-with-trail projects. Concerns with trespassing and security can vary with the amount of train traffic on the adjacent rail line and the setting of the bicycle path, i.e. whether the section of track is in an urban or rural setting.

Materials and Maintenance

For paths that are susceptible to flooding or ponding, permeable pavement is an option to reduce water collection.

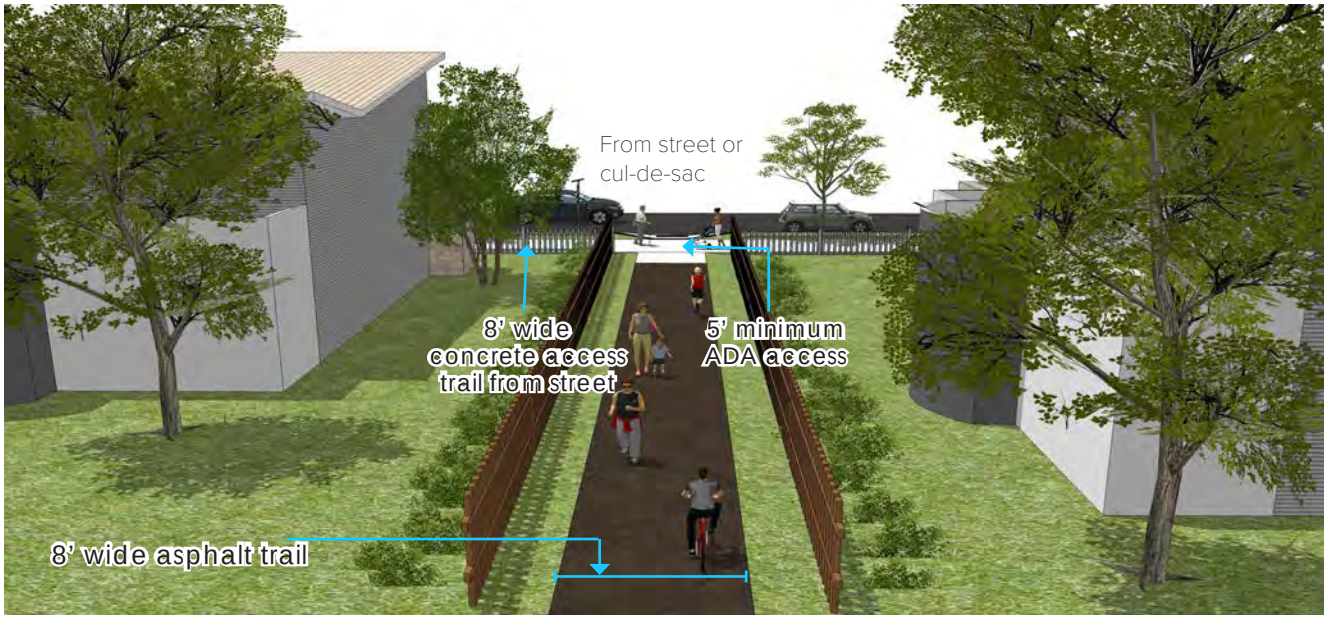
Additional References and Guidelines

AASHTO. Guide for the Development of Bicycle Facilities. 2012.

California MUTCD. 2014, Revision 2.

FHWA. Rails-with-Trails: Lessons Learned. 2002.

Local Neighborhood Accessways



Description

Neighborhood accessways provide residential areas with direct bicycle and pedestrian access to parks, trails, green spaces, and other recreational areas. They most often serve as small trail connections to and from the larger trail network, typically having their own rights-of-way and easements.

Additionally, these smaller trails can be used to provide bicycle and pedestrian connections between dead-end streets, cul-de-sacs, and access to nearby destinations not provided by the street network.

Guidance

- Neighborhood access should remain open to the public
- Trail pavement shall be at least 8 feet wide to accommodate emergency and maintenance vehicles, meet ADA requirements and be considered suitable for multi-use
- Trail widths should be designed to be less than 8 feet wide only when necessary to protect large mature native trees over 18 inches in caliper, wetlands or other ecologically sensitive areas.
- Access trails should slightly meander whenever possible

Discussion

Neighborhood access should be designed into new subdivisions at every opportunity and should be required by City/County subdivision regulations.

Materials and Maintenance

For paths that are susceptible to flooding or ponding, permeable pavement is an option to reduce water collection.

Additional References and Guidelines

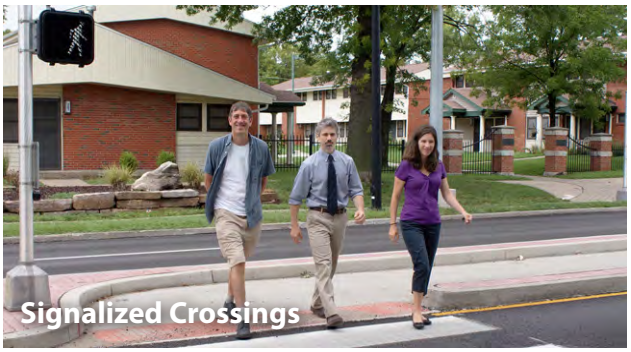
AASHTO. Guide for the Development of Bicycle Facilities. 2012.

California MUTCD. 2014, Revision 2.

Path/Roadway Crossing

At-grade roadway crossings can create potential conflicts between path users and motorists, however, well-designed crossings can mitigate many operational issues and provide a higher degree of safety and comfort for path users. This is evidenced by the thousands of successful facilities around the United States with at-grade crossings. In most cases, at-grade path crossings can be properly designed to provide a reasonable degree of safety and can meet existing traffic and safety standards. Path facilities that cater to bicyclists can require additional considerations due to the higher travel speed of bicyclists versus pedestrians. In addition to guidance presented in this section, see previous entries for Active Warning Beacons and Pedestrian Hybrid Beacons for other methods for enhancing trail crossings.

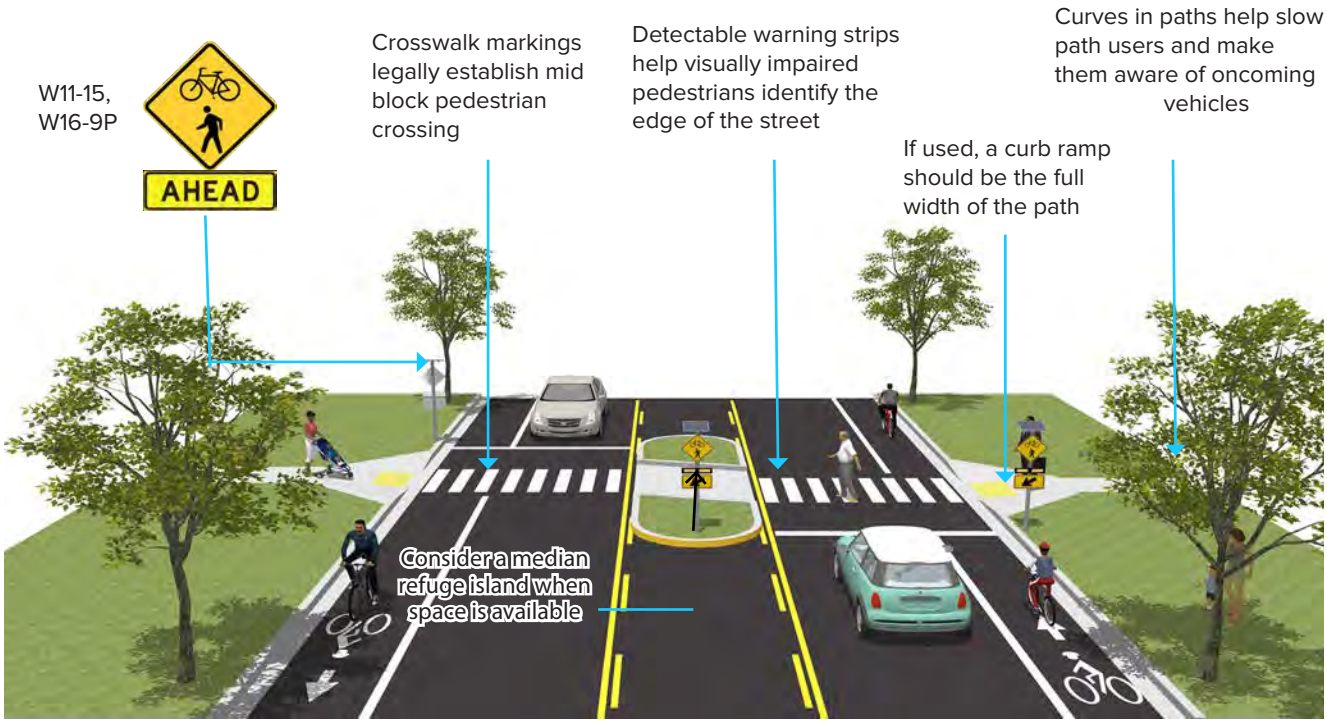
Marked/Unsignalized Crossings



Signalized Crossings

Overcrossings

Marked/Unsignalized Mid block Crossings



Description

A marked/unsignalized mid block crossing typically consists of a marked crossing area, signage and other markings to slow or stop traffic. The approach to designing crossings at mid-block locations depends on an evaluation of vehicular traffic, line of sight, pathway traffic, use patterns, vehicle speed, road type, road width, and other safety issues such as proximity to major attractions. The City of Chino does not support a mid-block crossing that is unprotected.

When space is available, using a median refuge island can improve user safety by providing pedestrians and bicyclists space to perform the safe crossing of one side of the street at a time.

Guidance

Maximum traffic volumes

- < 9,000-12,000 Average Daily Traffic (ADT) volume
- Up to 15,000 ADT on two-lane roads, preferably with a median
- Up to 12,000 ADT on four-lane roads with median
- Maximum travel speed: 35 MPH

Minimum line of sight

- 25 MPH zone: 155 feet
- 35 MPH zone: 250 feet
- 45 MPH zone: 360 feet

Discussion

Unsignalized crossings of multi-lane arterials over 15,000 ADT may be possible with features such as sufficient crossing gaps (more than 60 per hour), median refuges, and/or active warning devices like rectangular rapid flash beacons.

Materials and Maintenance

Locate markings out of wheel tread when possible to minimize wear and maintenance costs.

Additional References and Guidelines

AASHTO. Guide for the Development of Bicycle Facilities. 2012

California MUTCD. 2014, Revision 2.

Caltrans. California HDM. 2016

Overcrossings

Description

Bicycle/pedestrian overcrossings provide critical non-motorized system links by joining areas separated by barriers such as deep canyons, waterways or major transportation corridors. In most cases, these structures are built in response to user demand for safe crossings where they previously did not exist.

Grade-separated crossings may be needed where existing bicycle/pedestrian crossings do not exist, where ADT exceeds 25,000 vehicles, and where 85th percentile speeds exceed 45 miles per hour.

Guidance

- 10 foot minimum width between railings, 14 feet preferred. If overcrossing has any scenic vistas additional width should be provided to allow for stopping. A separate 5 foot pedestrian area may be provided for facilities with high bicycle and pedestrian use.
- 10 foot headroom on overcrossing; clearance below will vary depending on feature being crossed.
- Roadway: 17 feet
- Freeway: 18.5 feet
- Heavy Rail Line: 23 feet

Discussion

Overcrossings for bicycles and pedestrians typically fall under the Americans with Disabilities Act (ADA), which strictly limits ramp slopes of 8.33% (1:12) with landings every 30 feet. Title 24 of the California Code of Regulations requires gradients up to 5% (1:20) with 5-foot landings at 400 foot intervals.

Materials and Maintenance

Potential issues with vandalism. Overcrossings can be more difficult to clear of snow than undercrossings.

Additional References and Guidelines

AASHTO. Guide for the Development of Bicycle Facilities. 2012.

AASHTO. Guide for the Planning, Design, and Operation of Pedestrian Facilities. 2004.

Signalized Crossings

Description

Path crossings within approximately 300 feet of an existing signalized intersection with pedestrian crosswalks are typically diverted to the signalized intersection to avoid traffic operation problems when located so close to an existing signal. For this restriction to be effective, barriers and signing may be needed to direct path users to the signalized crossing. If no pedestrian crossing exists at the signal, modifications should be made.

Guidance

Mid block crosswalks shall not be signalized if they are located within 300 feet from the nearest traffic control signal and should not be controlled by a traffic control signal if the crosswalk is located within 100 feet from side streets or driveways that are controlled by STOP signs or YIELD signs. If possible route path directly to the signal.

Discussion

In the US, the minimum distance a marked crossing can be from an existing signalized intersection varies from approximately 250 to 660 feet. Engineering judgment and the context of the location should be taken into account when choosing the appropriate allowable setback.

Materials and Maintenance

If a sidewalk is used for crossing access, it should meet ADA guidelines.

Additional References and Guidelines

AASHTO. Guide for the Development of Bicycle Facilities. 2012

AASHTO. Guide for the Planning, Design, and Operation of Pedestrian Facilities. 2004

California MUTCD. 2014. Revision 2.

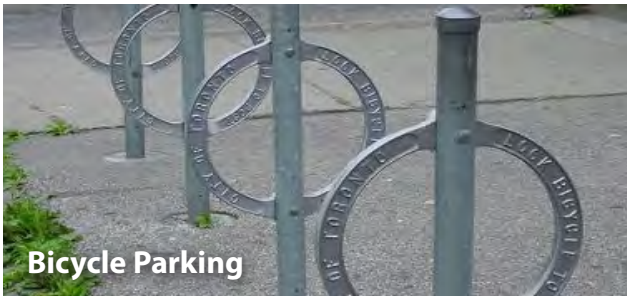
Bicycle Support Facilities

Bicycle Parking

Bicyclists expect a safe, convenient place to secure their bicycle when they reach their destination. This may be short-term parking of two hours or less, or long-term parking for employees, students, residents, and commuters.

Access to Transit

Safe and easy access to bicycle parking facilities is necessary to encourage commuters to access transit via bicycle. Providing bicycle access to transit and space for bicycles on buses and rail vehicles can increase the feasibility of transit in lower-density areas, where transit stops are beyond walking distance of many residences. People are often willing to walk only a quarter- to half-mile to a bus stop, while they might bike as much as two or more miles to reach a transit station.


Bicycle Parking

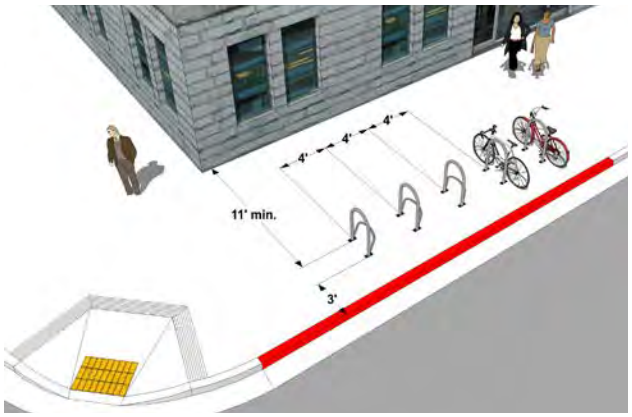

On-Street Bicycle Corral


Bicycle Lockers

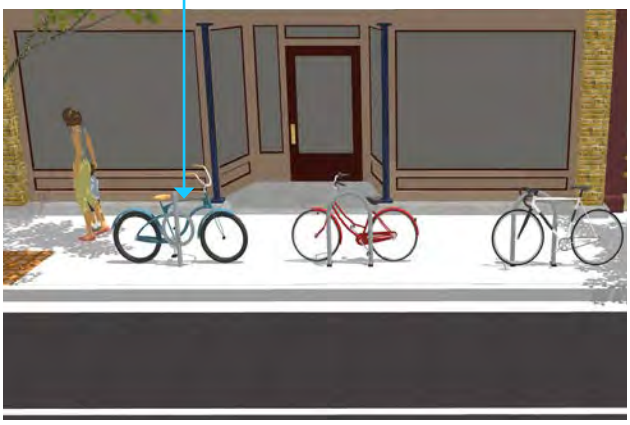

Secure Parking Areas (SPA)


Access to Transit

Bicycle Racks



A loop may be attached to retired parking meter posts to formalize the meter as bicycle parking



Description

Secure bicycle parking at likely destinations is an integral part of a bikeway network. Adequate bicycle parking should be incorporated into any new development or redevelopment project. Bicycle parking should be given a balanced level of importance when considering car parking improvements or development. In commercial areas where bicycle traffic is more prevalent, as well as parks and shopping centers, increased bicycle parking is recommended.

Bicycle rack type plays a major role in the utilization of the bicycle racks. Only racks that support the bicycle at two points and allow convenient locking should be used. The Association for Pedestrian and Bicycle Professionals (APBP) recommends selecting a bicycle rack that:

- Supports the bicycle in at least two places, preventing it from falling over
- Allows locking of the frame and one or both wheels with a U-lock
- Is securely anchored to ground
- Resists cutting, rusting and bending or deformation

Guidance

- Do not bend wheels or damage other bicycle parts
- Accommodate high security U-shaped bicycle locks
- Accommodate securing the frame and wheels
- Does not trip pedestrians
- Are easily accessed yet protected from motor vehicles
- Are covered if users will leave their bicycles for long periods
- Locate racks in areas that cyclists are most likely to travel

Discussion

Where bicycle parking is very limited, an occasional parking space could be converted into a bicycle corral to increase the attraction of cycling to the commercial district instead of driving there. See bike corrals.

Materials and Maintenance

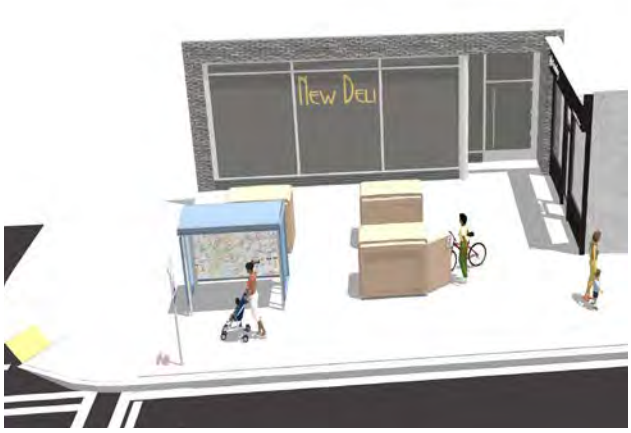
Use of proper anchors will prevent vandalism and theft.

Additional References and Guidelines

AASHTO. Guide for the Development of Bicycle Facilities. 2012.

APBP. Bicycle Parking Guide 2nd Edition. 2010.

Bicycle Lockers



Description

Bicycle parking facilities intended for long-term parking must protect against theft of the entire bicycle and its components and accessories.

Three common ways of providing secure long-term bicycle parking are:

- Fully enclosed lockers accessible only by the user, either coin-operated, or by electronic, on-demand locks operated by "smartcards" equipped with touch-sensitive imbedded RFID chips.
- A continuously monitored facility that provides at least medium-term type bicycle parking facilities generally available at no charge
- Restricted access facilities in which short-term type bicycle racks are provided and access is restricted only to the owners of the bicycles stored there

Perhaps the easiest retrofit is the bicycle locker. Generally, they are as strong as the locks on their doors and can secure individual bicycles with their panniers, computers, lights, etc, left in place. Some bicycle locker designs can be stacked to double the parking density.

Guidance

- Minimum dimensions: width (opening) 2.5 feet; height 4' feet; depth 6 feet.
- Four foot side clearance and 6 foot end clearance.
- Seven foot minimum distance between facing lockers.
- Locker designs that allow visibility and inspection of contents are recommended for security.
- Access is controlled by a key or access code.

Discussion

Long-term parking facilities are more expensive to provide than short-term facilities, but are also significantly more secure. Although many bicycle commuters would be willing to pay a nominal fee to guarantee the safety of their bicycle, long-term bicycle parking should be free wherever automobile parking is free.

Materials and Maintenance

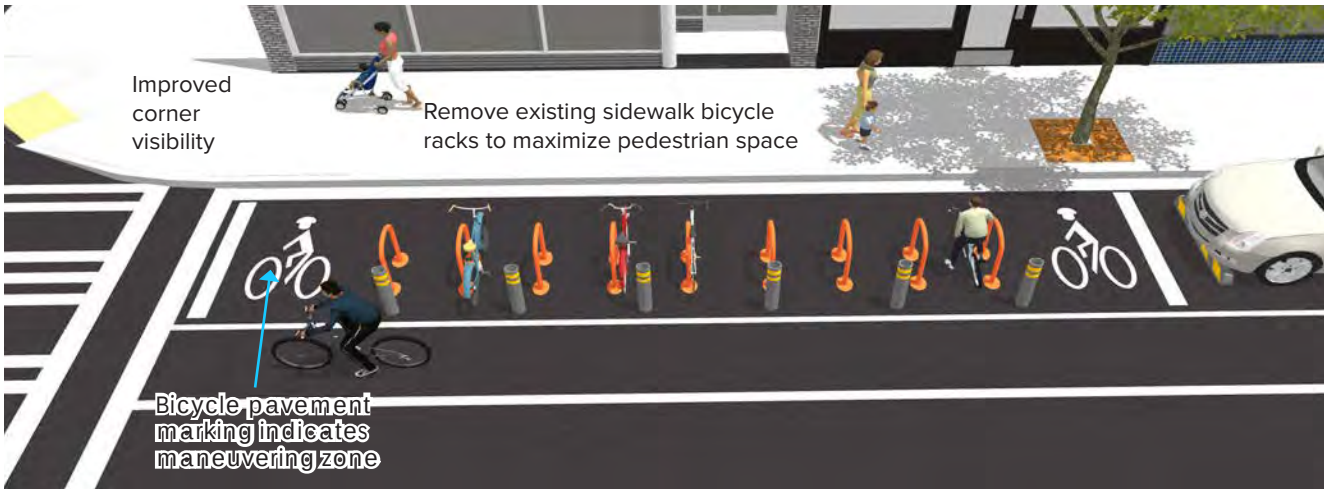
Regularly inspect the functioning of moving parts and enclosures. Change keys and access codes periodically to prevent access to unapproved users.

Additional References and Guidelines

AASHTO. Guide for the Development of Bicycle Facilities. 2012.

APBP. Bicycle Parking Guide 2nd Edition. 2010.

On-Street Bicycle Corral



Description

Bicycle corrals are generally former vehicle parking stalls converted to bicycle parking. Most have been on-street con¬versions, but they are now being incorporated into shopping center parking lots as well. Corrals can accommodate up to 20 bicycles per former vehicle parking space. On-street bicycle corrals provide many benefits where bicycle use is high and/ or growing:

Businesses - Corrals provide a much higher customer to parking space ratio and advertise "bicycle friendliness." They also allow more outdoor seating for restaurants by moving the bicycle parking off the sidewalk. Some cities have instituted programs that allow local businesses to sponsor or adopt a bicycle corral to improve bicycle parking in front of their business.

Pedestrians - Corrals clear the sidewalks and those installed at corners also serve as curb extensions

Cyclists - Corrals increase the visibility of cycling and greatly expand bicycle parking options

Vehicle drivers - Corrals improve visibility at intersections by preventing large vehicles from parking at street corners and blocking sight lines

Guidance

See guidelines for sidewalk Bicycle Rack placement.

- Bicyclists should have an entrance width from the roadway of 5 feet – 6 feet
- Desirable to put bicycle corrals near intersections
- Can be used with parallel or angled parking
- Parking stalls adjacent to curb extensions are good candidates for bicycle corrals since the concrete extension serves as delimitation on one side

Can be customized and have been designed and fabricated to complement specific locations

Discussion

In many communities, the installation of bicycle corrals is driven by requests from adjacent businesses, and is not a city-driven initiative. In other areas, the city provides the facility and business associations take responsibility for the maintenance of the facility.

Materials and Maintenance

Physical barriers may obstruct drainage and collect debris. Establish a maintenance agreement with neighboring businesses.

Additional References and Guidelines

APBP. Bicycle Parking Guide 2nd Edition. 2010.

Secure Parking Areas (SPA)

Description

A Secure Parking Area for bicycles, also known as a Bike SPA or Bike & Ride (when located at transit stations), is a semi-enclosed space that offers a higher level of security than ordinary bike racks. Accessible via key-card, combination locks, or keys, Bike SPAs provide high-capacity parking for 10 to 100 or more bicycles. Increased security measures create an additional transportation option for those whose biggest concern is theft and vulnerability.

Guidance

Key features may include:

- Closed-circuit television monitoring
- Double high racks & cargo bike spaces
- Bike repair station with bench
- Bike tube and maintenance item vending machine
- Bike lock "hitching post" – allows people to leave bike locks
- Secure access for users

Discussion

Long-term parking facilities are more expensive to provide than short-term facilities, but are also significantly more secure. Although many bicycle commuters would be willing to pay a nominal fee to guarantee the safety of their bicycle, long-term bicycle parking should be free wherever automobile parking is free.

Materials and Maintenance

Regularly inspect the functioning of moving parts and enclosures. Change keys and access codes periodically to prevent access to unapproved users.

Additional References and Guidelines

AASHTO. Guide for the Development of Bicycle Facilities. 2012

APBP. Bicycle Parking Guide 2nd Edition. 2010

Bike Fix-It Stations

Description

A Bike Fix-it Station is a public work stand complete with tools to perform basic bike repairs and maintenance including fixing a flat to adjusting brakes. While there are several stand designs, they all provide an ergonomic work environment for any rider. The tools are attached to the stand via stainless steel gauge cables to prevent theft. Hanging the bike from the arm hangar allows the pedals and wheels to move freely while making adjustments to the bike.

Guidance

The stations are best placed in public areas where there is a significant amount of bicycle traffic or at any trail head seeing frequent ridership.

Wall Setbacks

- Minimum of 48 inches from side of station to wall or other objects
- Minimum of 12 inches from back of station to wall or other objects

Street or Trail Setback

- Minimum of 60 inches from perpendicular street/trail
- Minimum of 96 inches from parallel street/trail

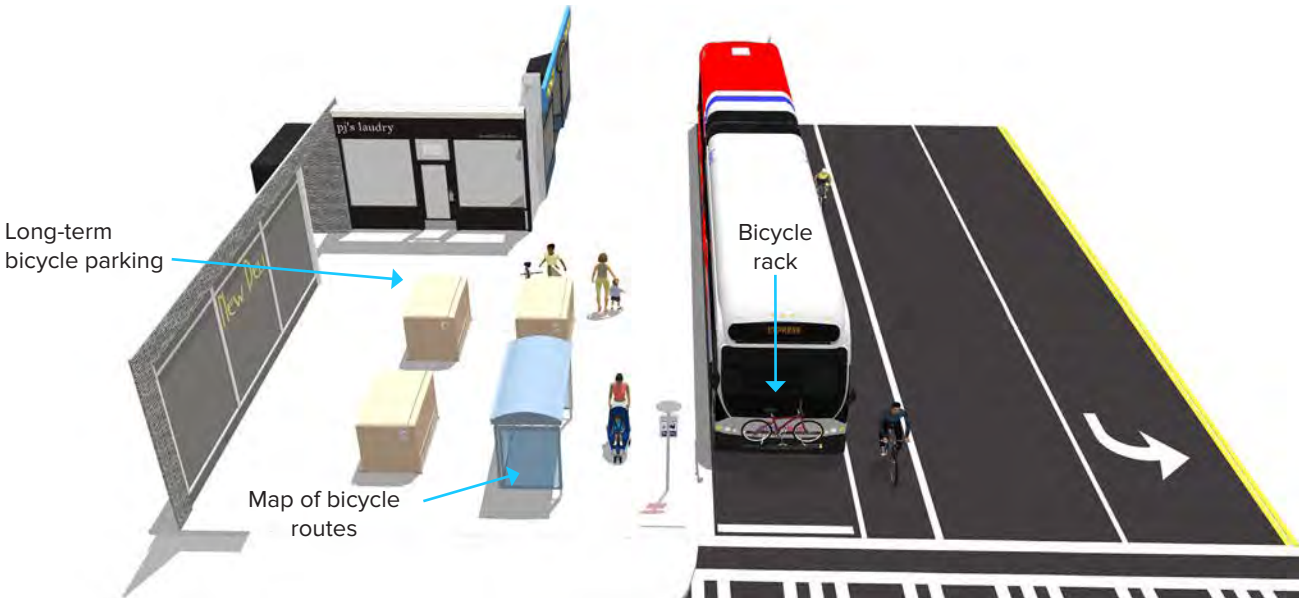
Discussion

The station has universal bike mounting that is also ADA compliant. Eight common bike tools are tethered to the station by stainless steel cables. The station itself is powder coated galvanized, stainless steel that is anchored into concrete or another proper base material specified by vendor. The station can be color customized from a variety of colors available by vendor. Many stations have a QR code with repair instructions should the rider need additional information.

Materials and Maintenance

The stations are made for outdoor use and are sealed from the elements. Some vendors provide a warranty for service and repair should vandalism or mechanical failure occur.

Bicycle Access to Transit



Description

Safe and easy access to transit stations and secure bicycle parking facilities is necessary to encourage commuters to access transit via bicycle. Bicycling to transit reduces the need to provide expensive and space consuming car parking spaces. Many people who ride to a transit stop will want to bring their bicycle with them on the transit portion of their trip, so buses and other transit vehicles should be equipped accordingly.

For staircases at bus or rail transit stations, bicycle access could be facilitated with bicycle staircase side ramps. These consist of narrow channels just wide enough to accommodate bicycle tires, installed below the handrails of staircases. Cyclists could place their bicycles onto the side ramps and walk them up or down the stairs, with the bicycles rolling within the channels.

Guidance

- Provide direct and convenient access to transit stations and stops from the bicycle and pedestrian networks.
- Provide maps, wayfinding signage and pavement markings from the bicycle network to transit stations.

Bicycle Parking

- The route from bicycle parking locations to station/stop platforms should be well-lit and visible.
- Signing should note the location of bicycle parking, rules for use, and instructions as needed.
- Provide safe and secure long-term parking such as bicycle lockers at transit hubs. Parking should be easy to use and well maintained.

Discussion

Providing bicycle routes to transit helps combine the long-distance coverage of bus and rail travel with the door-to-door service of bicycle riding. Transit use can overcome large obstacles to bicycling, including distance, hills, riding on busy streets, night riding, inclement weather, and breakdowns.

Materials and Maintenance

Regularly inspect the functioning of long-term parking moving parts and enclosures.

Additional References and Guidelines

APBP. Bicycle Parking Guide 2nd Edition. 2010.

FHWA. University Course on Bicycle and Pedestrian Transportation.

Lesson 18: Bicycle and Pedestrian Connections to Transit. 2006.

Bikeway Facility Maintenance

Regular bicycle facility maintenance includes sweeping, maintaining a smooth roadway, ensuring that the gutter-to-pavement transition remains relatively flat, and installing bicycle-friendly drainage grates. Pavement overlays are a good opportunity to improve bicycle facilities. The following recommendations provide a menu of options to consider enhancing a maintenance regimen.

Sweeping


Gutter to Pavement Transition


Roadway Surface


Drainage Grates

Sweeping

Description

Bicyclists often avoid shoulders and bike lanes filled with gravel, broken glass and other debris; they will ride in the roadway to avoid these hazards, potentially causing conflicts with motorists. Debris from the roadway should not be swept onto sidewalks (pedestrians need a clean walking surface), nor should debris be swept from the sidewalk onto the roadway. A regularly scheduled inspection and maintenance program helps ensure that roadway debris is regularly picked up or swept.

Guidance

Establish a seasonal sweeping schedule that prioritizes roadways with major bicycle routes.

- Sweep walkways and bikeways whenever there is an accumulation of debris on the facility.
- In curbed sections, sweepers should pick up debris; on open shoulders, debris can be swept onto gravel shoulders.
- Pave gravel driveway approaches to minimize loose gravel on paved roadway shoulders.
- Perform additional sweeping in the Spring to remove debris from the Winter.
- Perform additional sweeping in the Fall in areas where leaves accumulate.

Note- some separated bike facilities (cycle tracks) that employ curbs or other physical barriers for separation may be too narrow for a standard street sweeper, which requires a 10-foot clearance. If this is the case, arrangements need to be made for smaller equipment to be used on a regular basis to keep the facility clean.

Gutter to Pavement Transition

Description

On streets with concrete curbs and gutters, 1 to 2 feet of the curbside area is typically devoted to the gutter pan, where water collects and drains into catch basins. On many streets, the bikeway is situated near the transition between the gutter pan and the pavement edge. This transition can be susceptible to erosion, creating potholes and a rough surface for travel. These areas can also be prone to retaining standing water during and after rains.

Guidance

- Ensure that gutter-to-pavement transitions have no more than a ¼" inch vertical transition.
- Examine pavement transitions during every roadway project for new construction, maintenance activities, and construction project activities that occur in streets.
- Inspect the pavement two to four months after trenching construction activities are completed to ensure that excessive settlement has not occurred.
- Provide at least three feet of pavement outside of the gutter seams.
- When adding new bike facilities such as separated lanes, roundabouts, and traffic circles, check for potential drainage issues. Installing bioswales to capture runoff and avoid standing water in bike lanes is becoming a standard part of building bike facilities in bike-friendly communities.

Roadway Surface

Description

Bicycles are much more sensitive to subtle changes in roadway surface than are motor vehicles. Various materials are used to pave roadways, and some are smoother than others. Compaction is also an important issue after trenches and other construction holes are filled. Uneven settlement after trenching can affect the roadway surface nearest the curb where bicycles travel. Sometimes compaction is not achieved to a satisfactory level, and an uneven pavement surface can result due to settling over the course of days or weeks. When resurfacing streets, use the smallest chip size and ensure that the surface is as smooth as possible to improve safety and comfort for bicyclists.

Guidance

Maintain a smooth pothole-free surface.

- Ensure that on new roadway construction, the finished surface on bikeways does not vary more than ¼ inch.
- Maintain pavement so ridge buildup does not occur at the gutter-to-pavement transition or adjacent to railway crossings.
- Inspect the pavement two to four months after trenching construction activities are completed to ensure that excessive settlement has not occurred.
- If chip sealing is to be performed, use the smallest possible chip on bike lanes and shoulders. Sweep loose chips regularly following application.
- During chip seal maintenance projects, if the pavement condition of the bike lane is satisfactory, it may be appropriate to chip seal the travel lanes only. However, use caution when doing this so as not to create an unacceptable ridge between the bike lane and travel lane.

Drainage Grates

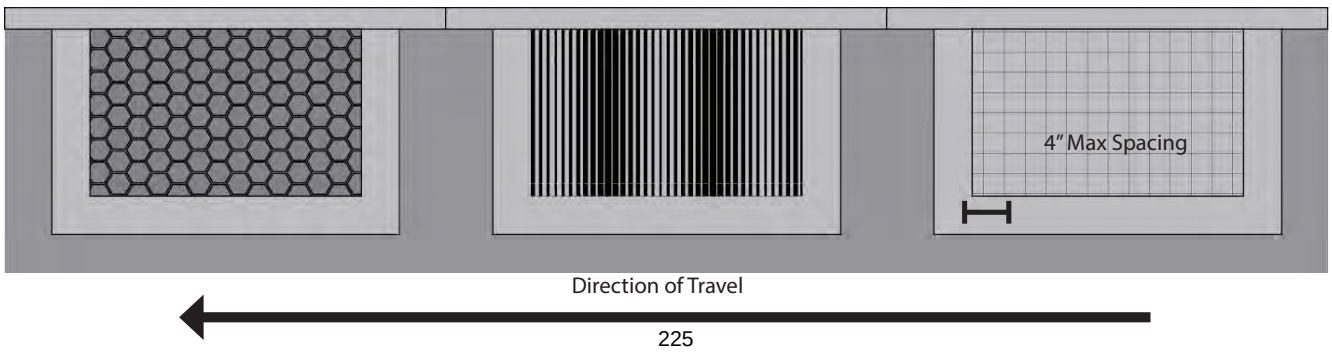
Description

Drainage grates are typically located in the gutter area near the curb of a roadway. Drainage grates typically have slots through which water drains into the municipal storm sewer system. Many older grates were designed with linear parallel bars spread wide enough for a tire to become caught so that if a bicyclist were to ride on them, the front tire could become caught in the slot. This would cause the bicyclist to tumble over the handlebars and sustain potentially serious injuries.

Guidance

Require all new drainage grates be bicycle-friendly, including grates that have horizontal slats on them so that bicycle tires and assistive devices do not fall through the vertical slats.

- Create a program to inventory all existing drainage grates, and replace hazardous grates as necessary – temporary modifications such as installing re-bar horizontally across the grate should not be an acceptable alternative to replacement.



Bikeway Maintenance and Operations

Description

Motor vehicle traffic tends to "sweep" debris like litter and broken glass toward the roadways edges where it can accumulate in bicycle lanes. Maneuvering to avoid such hazards can cause a cyclist to fall. In this way, proper maintenance directly affects safety and street sweeping must be a priority on roadways with bicycle facilities, especially in curb lanes and along curbs themselves. Law enforcement can assist by requiring towing companies to fully clean up crash sites to prevent glass and debris from being left in place or simply swept to the curb or shoulder after collisions.

When any roadwork repairs are done by the city or other agencies, the roadway must be restored to satisfactory quality with particular attention to surface smoothness suitable for cycling. Striping must be restored to the prior markings, or new markings if called in for a project. Bicycle facilities also sometimes seem to "disappear" after roadway construction occurs. This can happen incrementally as paving repairs are made over time and are not promptly followed by proper re-striping. When combined with poor surface reconstruction following long periods of no service due to road work, bikeway facilities can be "lost", which can discourage cycling in general. Construction projects that require the demolition and rebuilding of adjacent roadways can cause problems maintaining and restoring bikeway function.

Construction activities controlled through permits, such as driveway, drainage, and utility work can have an important effect on roadway surface quality where cyclists operate in the form of mismatched pavement heights, rough surfaces or longitudinal gaps in adjoining pavements, or other pavement irregularities. Permit conditions should ensure that pavement foundation and surface treatments are restored to their pre-construction conditions, that no vertical irregularities will result and that no longitudinal cracks will develop. Strict specifications, standards, and inspections designed to prevent these problems should developed. A five year bond should be held to assure correction of any deterioration that might occur as a result of faulty reconstruction of the roadway surface.

Bicycle facilities should be swept regularly, at least twice a month, and preferably more often for heavily traveled routes. Also, adjacent shrubs and trees should be kept trimmed back to prevent encroachment into the pathway or obstructing cyclists' views.

Guidance for Colored Pavement Materials

Waterbourne Paints

Over the past 10 years, transportation agencies in the United States have gradually replaced conventional solvent paints with waterbourne paints that have low Volatile Organic Compounds (VOC) and other newer pavement marking materials. Waterbourne traffic paints are the most widely used and least expensive pavement marking material available. Glass beads are either pre-mixed into the paint or dropped onto the waterbourne paint to provide retro-reflectivity.

Waterbourne paints generally provide equal performance on asphalt and concrete pavements but have the shortest service life of all pavement marking materials. This paint type tends to wear off rapidly and lose retro-reflectivity quickly after being exposed to factors such as high traffic volumes. Although still a widely used material, waterbourne paint is also used as an interim marking material until they can apply something more durable.

Regular Solvent Paint

This type of paint can be used universally for just about any pavement needing paint and is the least expensive. Sometimes additives such as reflective glass beads for reflectivity and sand for skid resistance are widely used to mark road surfaces. This is typically considered a non-durable pavement marking and is easily worn by vehicle tires and often requires annual re-application.

Durable Liquid Pavement Markings

Durable Liquid Pavement Markings (DLPM) include epoxy and Methyl Methacrylate (MMA). Epoxy paint has traditionally been viewed as a marking material that provides exceptional adhesion to both asphalt and concrete pavements when the pavement surface is properly cleaned before application. The strong bond that forms between epoxy paints and both asphalt and concrete pavement surfaces results in the material being highly durable when applied on both pavement surfaces. These markings are highly durable and can be sprayed or extruded but generally require long no-track times.

Thermoplastics

Thermoplastics are a durable pavement marking material composed of glass beads, pigments, binders (plastics and resins) and fillers. There are two types of thermoplastics: hydrocarbon and alkyd. Hydrocarbon thermoplastics are made from petroleum-derived resins; and alkyd thermoplastics are made from wood-derived resins. One of the added advantages of using thermoplastic is that the material can be re-applied over older thermoplastic markings, thereby refurbishing the older marking as well as saving on the costs of removing old pavement markings. Although thermoplastic materials usually perform very well on all types of asphalt surfaces, there have been mixed results when they have been applied on concrete pavements.

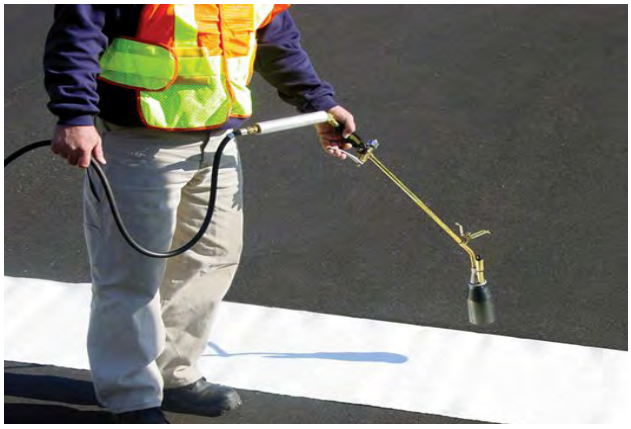
Use of Green Paint

One significant change is the FHWA's interim approval for the use of green colored pavement within bicycle lanes in mixing or transition zones, such as at intersections and in other potential conflict zones where motor vehicles may cross a bicycle lane. They are intended to warn drivers to watch for and to yield to cyclists when they encounter them within the painted area. FHWA studies have also shown that green bicycle lanes improve cyclist positioning as they travel across intersections and other conflict areas.

Jurisdictions within the State must notify Caltrans before proceeding with green bicycle lane projects because the agency is required to maintain an inventory, but since Caltrans has requested to participate in this interim approval, the process has been streamlined because FHWA experimental treatment protocol is no longer required.

Product Life Estimates for Waterbourne and Regular Paint

- Paints 9-36 months
- Inexpensive
- Quick-drying
- Longer life on low-volume roads
- Easy clean-up and disposal
- Short life on high-volume roads
- Subject to damage from sand/abrasives
- Pavement must be warm or it will not adhere



Durable Liquids for Pavement Markings

Epoxy

- 4 years
- Longer life on low-volume roads
- More retro-reflective
- Slow drying
- Requires coning and/or flagging during application
- Heavy bead application-may need to be cleaned off of roadway
- High initial cost
- Subject to damage from sand/abrasives

Thermoplastic

- 3-6 years
- Long life on low-volume roads
- Retro-reflective
- No beads needed
- Any temperature for application
- Recommended use for symbols and spot treatments
- Subject to damage from sand/abrasives
- Cost prohibited if used for large scale applications
- Shown to wear quickly in conflicts areas
- Life of pavement marking will depend on traffic volume, road condition and application time of year

Additional References and Guidelines

NACTO. Urban Bikeway Design Guide. 2014.

FHWA. Durability and Retro-Reflectivity of Pavement Markings (Synthesis Study). 2008

Appendix B
Public Outreach Summary

Community Profile

The City of El Paso de Robles is located on California's Central Coast, approximately mid-way between Southern California and the San Francisco Bay Area. It incorporates 18 square miles, is bisected by the Salinas River, and is surrounded by rolling hills and vineyards. The commercial downtown core area is located on the west side of town, and the east side of the City is primarily residential. The climate shifts between hot summers (in the upper 90s/low 100s) to frost conditions in winter. Spring and Fall typically have mild weather.

According to the US Census 2015 American Community Survey 5-year Estimates, the City of Paso Robles has a population of 30,863 residents, with an estimated 11,410 households. Population growth will continue with residential and commercial development east of Golden Hill Road and Creston Road.

The 2015 American Community Survey Estimates indicate that the City's largest age group is the 20 - 29 years (14.9%), followed closely by 0 – 9 years (14.5%), and lastly 40 – 49 years (14.0%), respectively. These numbers indicate a diverse distribution of ages throughout the population.

The County's median household income is approximately $60,500; with only 10.5% of Paso Robles residents reporting incomes below the national poverty level. The City reported to have a workforce population of approximately 14,900 persons.

According to 2015 American Community Survey data, less than one percent of commuters rode their bike to work. The specific increase of bike ridership expected to result from implementation of the Plan is difficult to estimate until a regular bike counting program is developed. The 2015 American Community Survey data provides a baseline that can be used in estimating growth in bike commuters. This plan incorporates measures to direct preparation of a bike commuter survey to gauge the effectiveness of the implementation of this plan.

In 2013, the City was awarded a Bronze designation as a Bicycle Friendly Community from the League of American Bicyclists.

Public Outreach Process

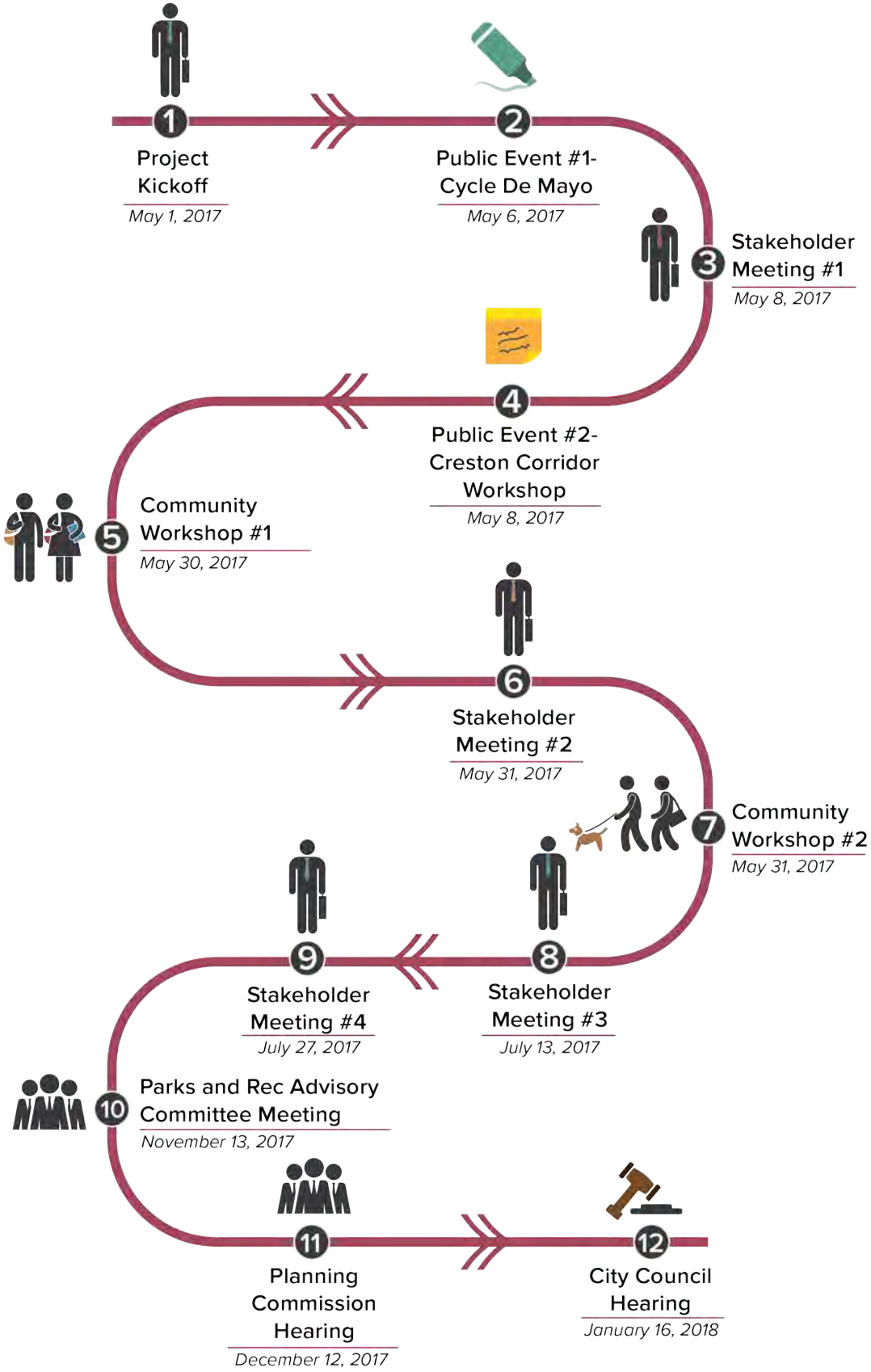
The planning process included several public outreach efforts designed to gather information from a broad range of residents, stakeholders, and city staff through a series of public events, stakeholder meetings, and surveys

The public outreach process included the following meetings and events:

- Three (3) public events
- Two (2) community workshops
- Four (4) stakeholder meetings
- One (1) Planning Commission hearing
- One (1) City Council hearing
- Survey (hard copy and online)

Figure B-1 outlines the project's outreach process.

Figure B-1: Public Outreach Process Diagram



Bicycle and Pedestrian Stakeholders Committee

The Bicycle and Pedestrian Stakeholder Committee was comprised of local agency representatives, City staff, and stakeholders. They provided valuable insight on the day-to-day issues within the study area. This group included the following members:

- Ted Muller, North County Cyclepeds
- Mike Bennett, Bike SLO County
- Lea Brooks, Bike SLO County
- Stephanie Hicks, SLOCOG
- Mallory Jenkins, SLOCOG
- John DiNunzio, SLOCOG
- Mike Milby, Paso Bike Tours
- Brandon Madieros, REC Foundation
- Patricia Wilmore, Wine County Alliance
- Lynda Plescia, City of Paso Senior Center
- Rich Clayton, Paso Robles School District
- Sandra Sage, TRPA
- Larry Werner, North Coast Engineering
- David Athey, City of Paso Robles
- Warren Frace, City of Paso Robles
- Susan DeCarli, City of Paso Robles

Public Event Materials

The following are the event flyers and fact sheets that provide background information and the surveys distributed at the events and online. These materials were developed in Spanish and English.

City of Paso Robles
Bicycle & Pedestrian Master Plan

Survey

The Paso Robles Bicycle & Pedestrian Master Plan will guide creating safe, enjoyable and convenient walking and biking options to schools, parks, and other places you want to go to. With your help, we can make walking and biking in Paso Robles a top choice!

1 How would you best describe your relationship with Paso Robles? (Check all that apply)

__ Resident
__ Property Owner
__ Business Owner
__ Employee
__ Student
__ Visitor/Patron
__ Other

2 Is there a student in the household? If so, what school?

_____

3 What is your gender?

__ Male
__ Female
__ Prefer not to answer

4 What is your age?

__ 0-18 __ 19-45 __ 46-64 __ 65+

5 How do you get to work/school? (Check all that apply)

__ Walk
__ Bike
__ Bus
__ Drive
__ Other (please specify)
_____

6 How do you get to the park? (Check all that apply)

__ Walk
__ Bike
__ Bus
__ Drive
__ Other (please specify)
_____

7 Where would you like to see better pedestrian and bicycling routes to?

__ Schools
__ Parks
__ Community Centers
__ Transit/Bus Stops
__ Shopping Centers
__ Downtown
__ Other (please specify)
_____
_____

8 How often do you walk in Paso Robles?

__ Daily
__ 3-4 days per week
__ 1-2 days per week
__ A few times a year
__ Never

9 How often do you bike in Paso Robles?

__ Daily
__ 3-4 days per week
__ 1-2 days per week
__ A few times a year
__ Never

10 What would make walking better in Paso Robles? (Check all that apply)

__ Wider Sidewalks
__ Continuous Sidewalks
__ Marked Crosswalks
__ Street Lighting
__ Street Trees/Parkways
__ Bus Shelters
__ Slower Traffic Speeds
__ Protected Crossings (signals or stop signs)
__ Other _____

11 What would make biking better in Paso Robles? (Check all that apply)

__ Bike Lanes on the Street
__ Bike Paths away from the Street
__ Lighting
__ Street Trees
__ Bike Parking
__ Slower Traffic Speeds
__ Other _____

12 How safe do you feel when using the following types of transportation?

	I feel very safe	I feel somewhat safe	I do not feel safe at all
Walking			
Bicycling			
Bus			

13 If you do not feel safe or comfortable, please explain why.

_____
_____
_____
_____

14 Want to stay informed about the Bicycle & Pedestrian Master Plan? If so, please provide your email address below. If you prefer, you may provide your phone number instead.

Name: _____
Email: _____
Phone: _____

15 To fill out this survey online, please visit: **https://www.surveymonkey.com/r/PasoRoblesBPMP**

To stay involved with the project please visit: http://www.prcity.com/

For more information please contact: Susan DeCarli, City Planner

1000 Spring Street
Paso Robles, CA 93446

City of Paso Robles
Bicycle & Pedestrian Master Plan

Encuesta

El Plan Maestro Ciclista y Peatonal de Paso Robles ofrecerá una guía para crear opciones más seguras, agradables y convenientes para caminar y andar en bicicleta. ¡Con su ayuda podemos hacer que caminar y andar en bicicleta en Paso Robles sea una mejor opción!

1 ¿Cómo describiría su relación con Grand Terrace? (Seleccione todas las opciones que apliquen)

__ Residente
__ Propietario
__ Propietario de negocio
__ Empleado
__ Estudiante
__ Visitante
__ Otro

2 Si alguien en la familia es un estudiante, ¿a qué escuela asisten? _____

3 ¿Cuál es su sexo?

__ Masculino
__ Femenino
__ Prefiero no responder

4 ¿Cuál es su edad?

__ 0-18 __ 19-45 __ 46-64 __ 65+

5 ¿Cómo llega al trabajo o a la escuela? (Seleccione todas las opciones que apliquen)

__ A pie
__ En bicicleta
__ En autobús
__ En carro
__ Otro (por favor especifique) _____

6 ¿Cómo llega al parque? (Seleccione todas las opciones que apliquen)

__ A pie
__ En bicicleta
__ En autobús
__ En carro
__ Otro (por favor especifique) _____

7 ¿En dónde le gustaría ver mejores instalaciones para ciclistas y peatones?

__ Escuelas
__ Parques
__ Centros comunitarios
__ Paradas de autobús
__ Centros comerciales
__ Grand Terrace
__ Otro (por favor especifique) _____

8 ¿Qué tan seguido camina en Paso Robles?

__ Diario
__ 3-4 días a la semana
__ 1-2 días a la semana
__ Pocas veces al año
__ Nunca

9 ¿Qué tan seguido anda en bicicleta en Paso Robles?

__ Diario
__ 3-4 días a la semana
__ 1-2 días a la semana
__ Pocas veces al año
__ Nunca

10 ¿Qué haría que caminar fuera mejor en Paso Robles? (Seleccione todas las opciones que apliquen)

__ Banquetas anchas
__ Banquetas continuas
__ Cruces señalizados
__ Alumbrado
__ Árboles
__ Paradas de autobús
__ Velocidades de tráfico más lentas
__ Cruces protegidos (altos o señales)
__ Otro _____

11 ¿Qué haría que andar en bicicleta fuera mejor en Paso Robles? (Seleccione todas las opciones que apliquen)

__ Carriles para bicicleta en las calles
__ Rutas para bicicleta fuera de la calle
__ Alumbrado
__ Árboles
__ Estacionamiento para bicicletas
__ Velocidades de tráfico más lentas
__ Otro _____

12 ¿Qué tan seguro se siente usando los siguientes modos de transporte?

	Me siento muy seguro	Me siento algo seguro	No me siento seguro
A pie			
Bicicleta			
Autobús			

13 Si no se siente cómodo o seguro, por favor explique por qué.

_____
_____
_____

14 ¿Se quiere mantener informado sobre este plan? De ser así, por favor anote su dirección de correo electrónico a continuación. Si lo prefiere, puede proporcionar su número de teléfono en su lugar.

Nombre: _____
Email: _____
Teléfono: _____

15 Para llenar esta encuesta en línea, visite: **https://www.surveymonkey.com/r/PasoRoblesBPMP**

Para seguir participando en el proyecto, por favor visite: http://www.prcity.com/

Para más información, por favor contacte a Susan Decker, City Planner

1000 Spring Street
Paso Robles, CA 93446

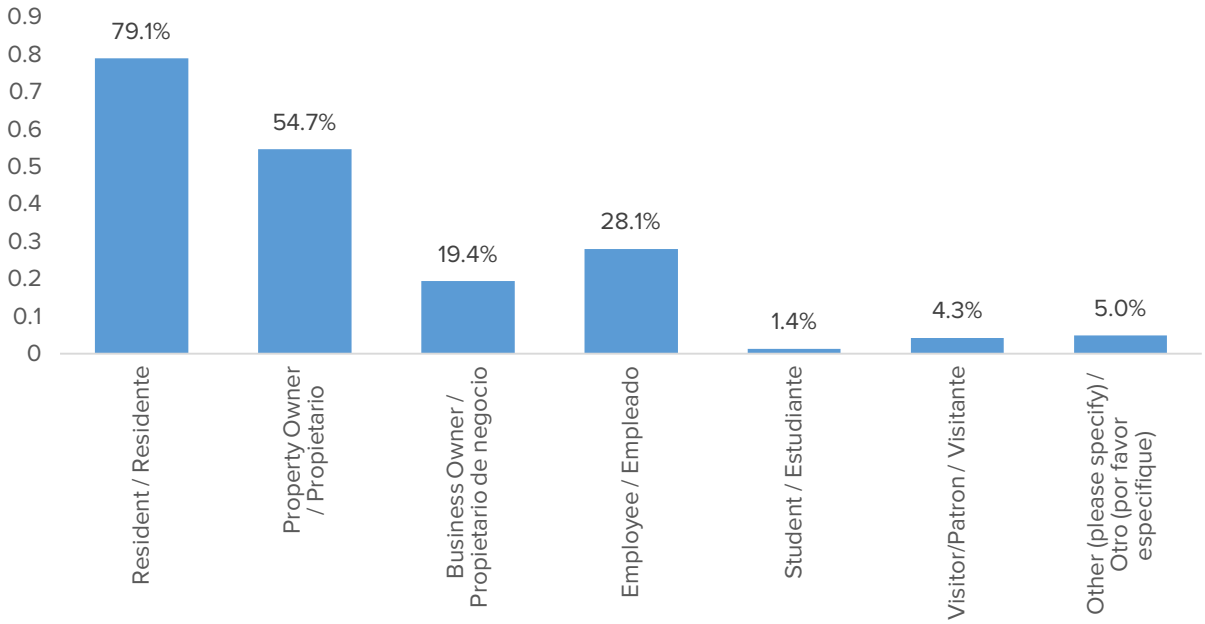
Public Outreach Summary

The following pages summarize all the public input for the Paso Robles Bicycle and Pedestrian Master Plan through various events and online surveys.

Question 1

How would you best describe your relationship with Paso Robles? (check all that apply) / ¿Cómo describiría su relación con Paso Robles? (Seleccione todas las opciones que apliquen)

Answer Options	Response Percent	Response Count
Resident / Residente	79.1%	110
Property Owner / Propietario	54.7%	76
Business Owner / Propietario de negocio	19.4%	27
Employee / Empleado	28.1%	39
Student / Estudiante	1.4%	2
Visitor/Patron / Visitante	4.3%	6
Other (please specify) / Otro (por favor especifique)	5.0%	7
	answered question	**139**
	skipped question	**0**



Question 2

Is there a student(s) in the household? If so, what school(s) do they attend? / ¿Hay algún estudiante(s) en el hogar? De ser así, ¿a qué escuela asiste(n)?

Answer Options	Response Count
	96
answered question	**96**
skipped question	**43**

The following comments have not been edited for grammar or punctuation. They have been included as received through the online survey.

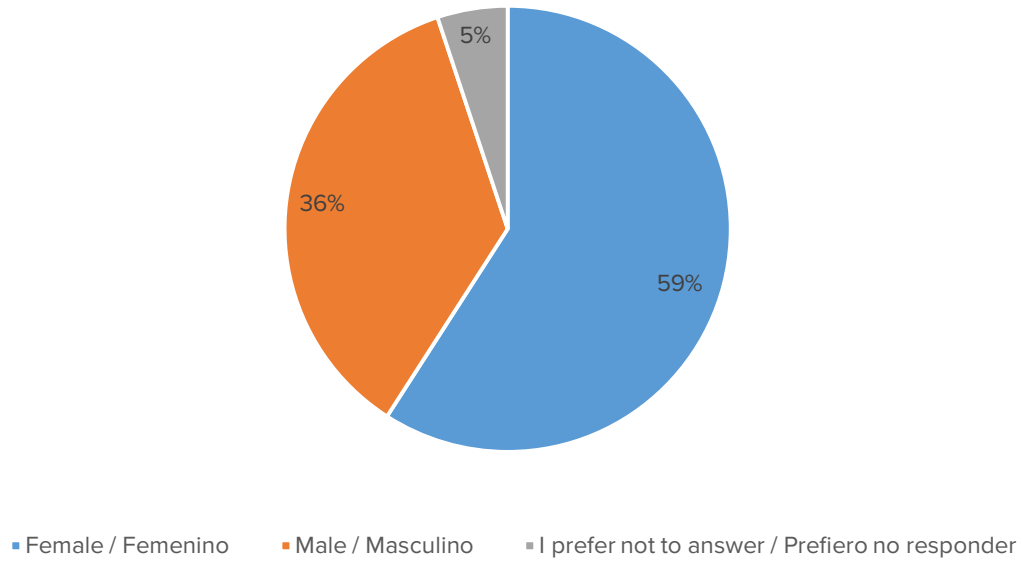
- Atascadero High School San Gabriel Elementary
- no
- no
- no
- no
- no
- yes
- No
- no
- N/A
- no
- Yes, Georgia Brown and Flamson
- no
- No
- Two, Georgia Brown and Flamson
- Almond Acres Charter Academy
- No
- PRHS
- I am a teacher at Liberty High School
- Lillian Larsen Elementary
- None
- Yes, Pat Butler
- Kermit King Elementary
- no
- winifred pifer
- no
- Yes, Preschool
- no
- third grade and kindergarten
- Flamson
- Pat Butler, Flamson Middle School
- PRHS
- Kermit King, Daniel Lewis
- Pat butler
- PRHS, Lewis Midle
- LMS
- Pat Butler
- No
- Grand children will eventually be attending Flamson and the High School
- Pat Butler & Flamson
- Pat Butler & Flamson
- 2 students, one at Flamson next year, the other headed to PRHS
- Yes, Flamson Middle School
- Pat Butler elementary
- Trinity Lutheran, Paso Robles Independence High
- Two children at Pat Butler Elementary
- Pat Butler
- NO
- Cuesta
- No

- Pifer, Daniel Lewis and Flamson
- No
- Yes. Pat Butler.
- KK and lewis
- no
- no
- Lewis Middle School
- no
- Vineyard Elementary- Templeton
- Bauer Speck
- Cuesta
- 0
- No
- Grandchild==Virginia Petersen School
- Yes; Piefer
- Not yet, but will attend Georgia Brown
- Paso Robles High School, Kirmit King elementary
- No.
- Bauer speck
- No
- yes 2 college age
- 2 college age kids
- No
- No
- LMS, PRHS
- No
- No
- No
- No
- Cuesta north county campus
- 2, 1 at kermit king, 1 at bauer speck
- yes, kermit king and bauer speck
- Western governors university
- Pifer and King
- no
- No
- 0
- Pat Butler
- Pat Butler, Bear Kittens (PRHS)
- No
- Flamson Middle School
- No
- Paso High school
- PRHS
- Yes, Paso Robles High School
- Yes, two. They attend Pat Butler Elementary School.

Question 3

What is your gender? / ¿Cuál es su sexo?

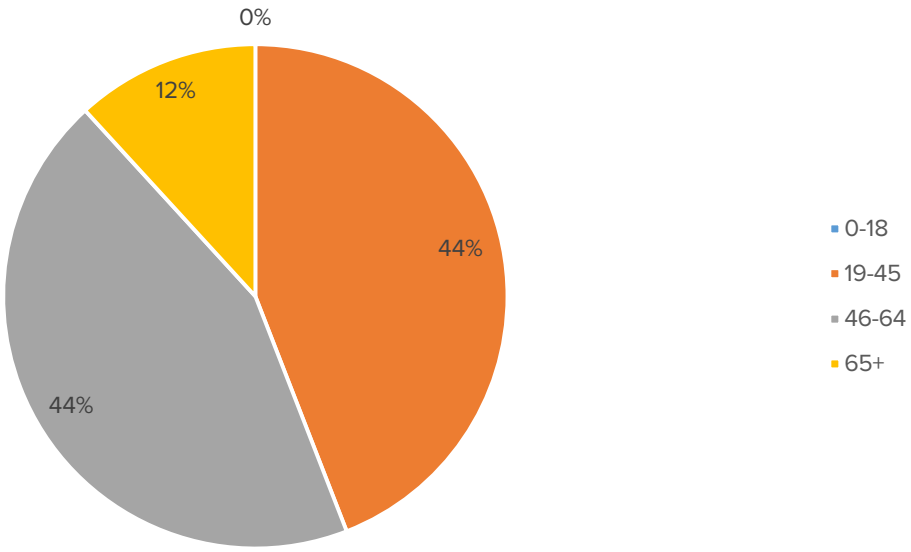
Answer Options	Response Percent	Response Count
Female / Femenino	59.1%	81
Male / Masculino	35.8%	49
I prefer not to answer / Prefiero no responder	5.1%	7
answered question		**137**
skipped question		**2**



Question 4

What is your age? / ¿Qué edad tiene?

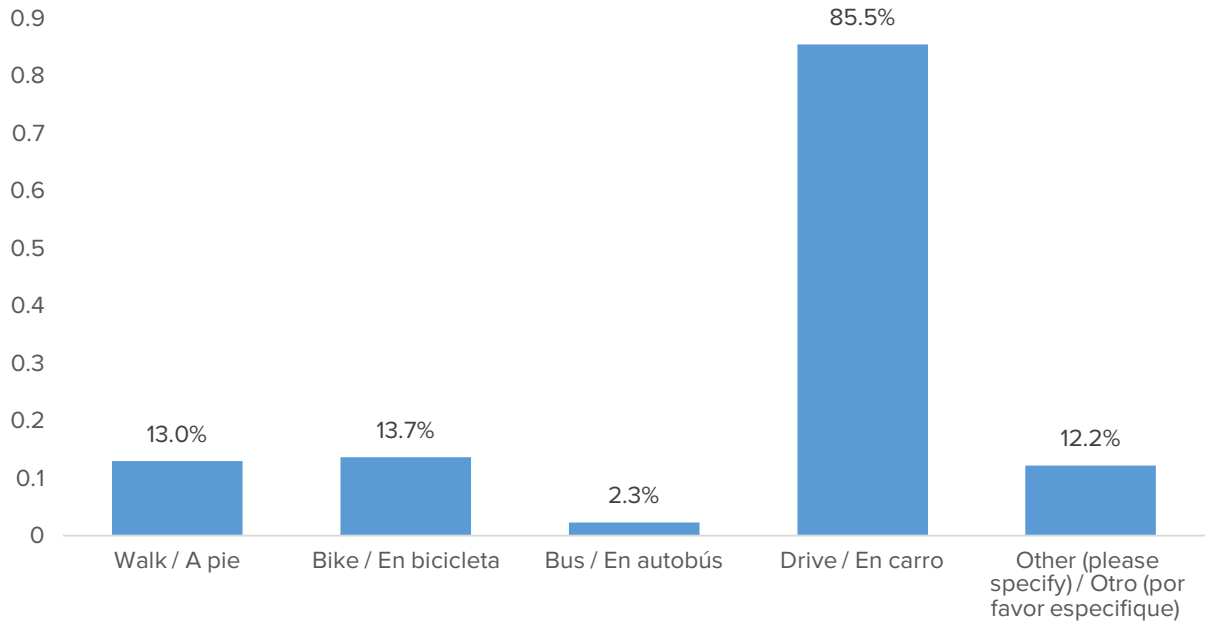
Answer Options	Response Percent	Response Count
0-18	0.0%	0
19-45	44.1%	60
46-64	44.1%	60
65+	11.8%	16
answered question		**136**
skipped question		**3**



Question 5

How do you get to work/school? (check all that apply) / ¿Cómo llega al trabajo o a la escuela? (Seleccione todas las opciones que apliquen)

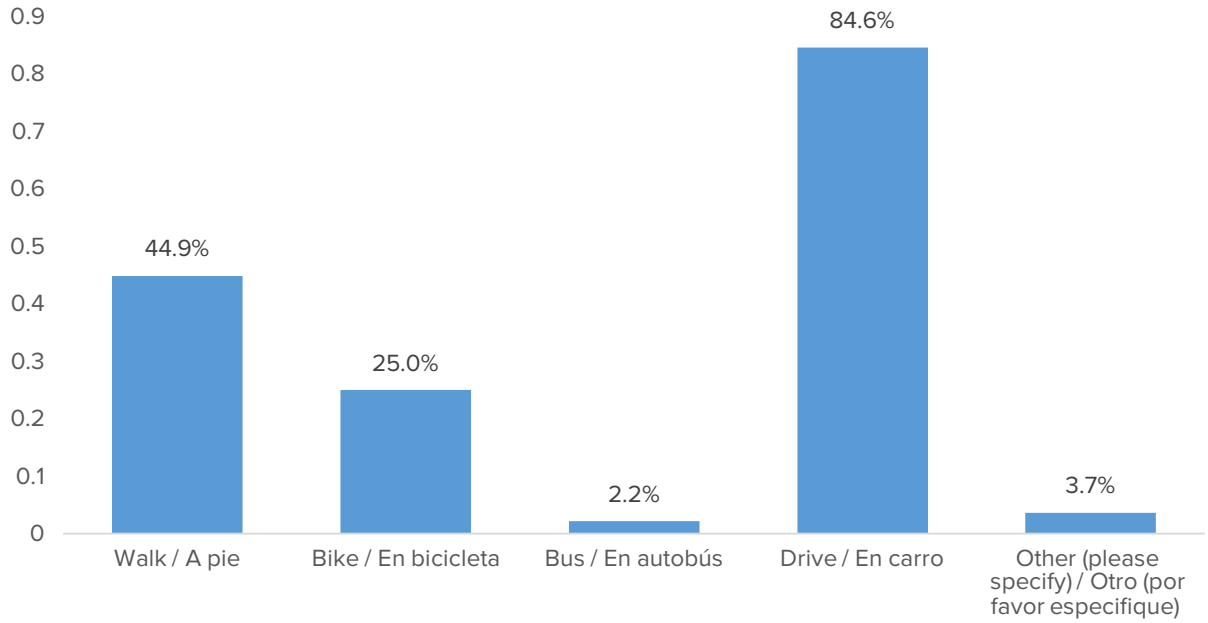
Answer Options	**Response Percent**	**Response Count**
Walk / A pie	13.0%	17
Bike / En bicicleta	13.7%	18
Bus / En autobús	2.3%	3
Drive / En carro	85.5%	112
Other (please specify) / Otro (por favor especifique)	12.2%	16
	answered question	**131**
	skipped question	**8**



Question 6

How do you get to the park? (check all that apply) / ¿Cómo llega al parque? (Seleccione todas las opciones que apliquen)

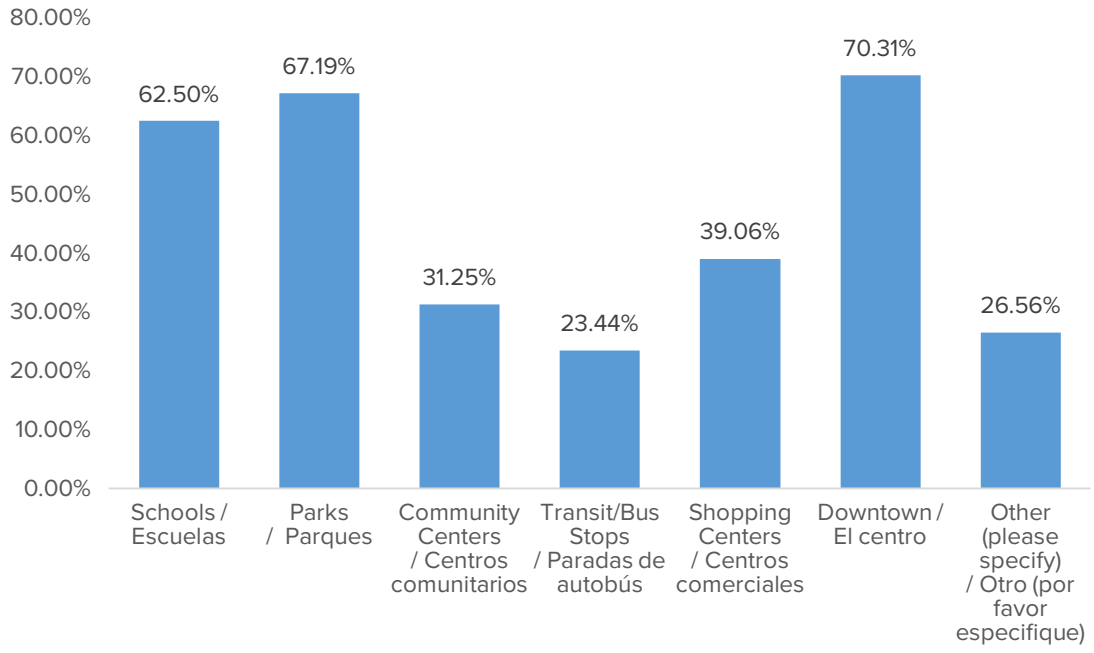
Answer Options	Response Percent	Response Count
Walk / A pie	44.9%	61
Bike / En bicicleta	25.0%	34
Bus / En autobús	2.2%	3
Drive / En carro	84.6%	115
Other (please specify) / Otro (por favor especifique)	3.7%	5
	answered question	**136**
	skipped question	**3**



Question 7

Where would you like to see better pedestrian and bicycling routes to? / ¿En dónde le gustaría ver mejores rutas peatonales y ciclistas?

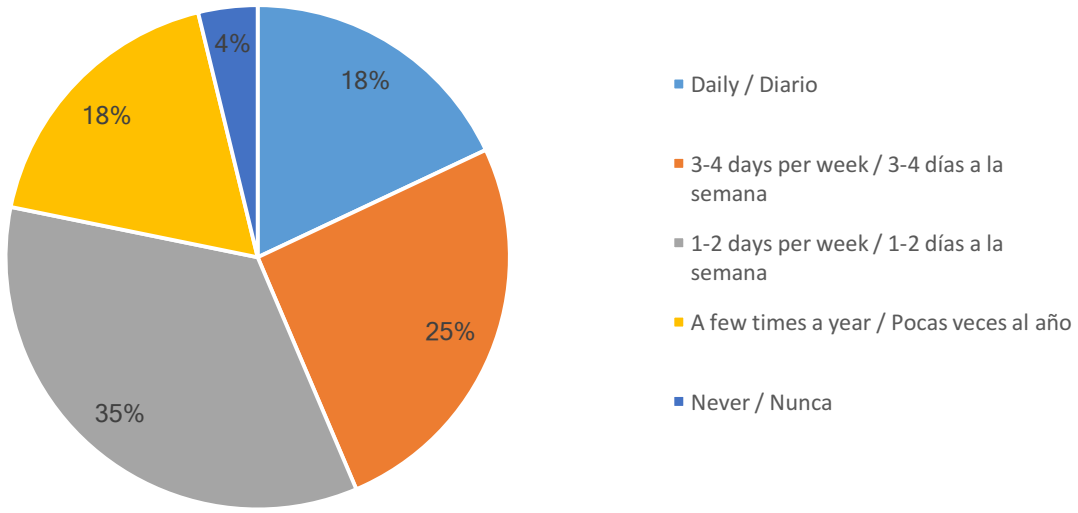
Answer Options	**Response Percent**	**Response Count**
Schools / Escuelas	62.5%	80
Parks / Parques	67.2%	86
Community Centers / Centros comunitarios	31.3%	40
Transit/Bus Stops / Paradas de autobús	23.4%	30
Shopping Centers / Centros comerciales	39.1%	50
Downtown / El centro	70.3%	90
Other (please specify) / Otro (por favor especifique)	26.6%	34
	answered question	**128**
	skipped question	**11**



Question 8

How often do you walk in Paso Robles? / ¿Qué tan seguido camina en Paso Robles?

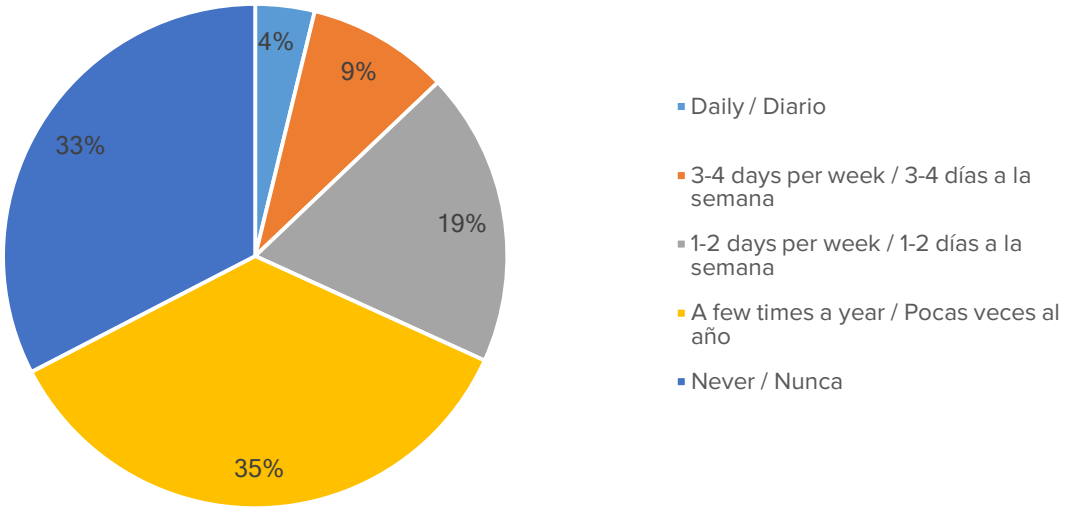
Answer Options	Response Percent	Response Count
Daily / Diario	18.0%	24
3-4 days per week / 3-4 días a la semana	25.6%	34
1-2 days per week / 1-2 días a la semana	34.6%	46
A few times a year / Pocas veces al año	18.0%	24
Never / Nunca	3.8%	5
answered question		**133**
skipped question		**6**



Question 9

How often do you bike in Paso Robles? / ¿Qué tan seguido anda en bicicleta en Paso Robles?

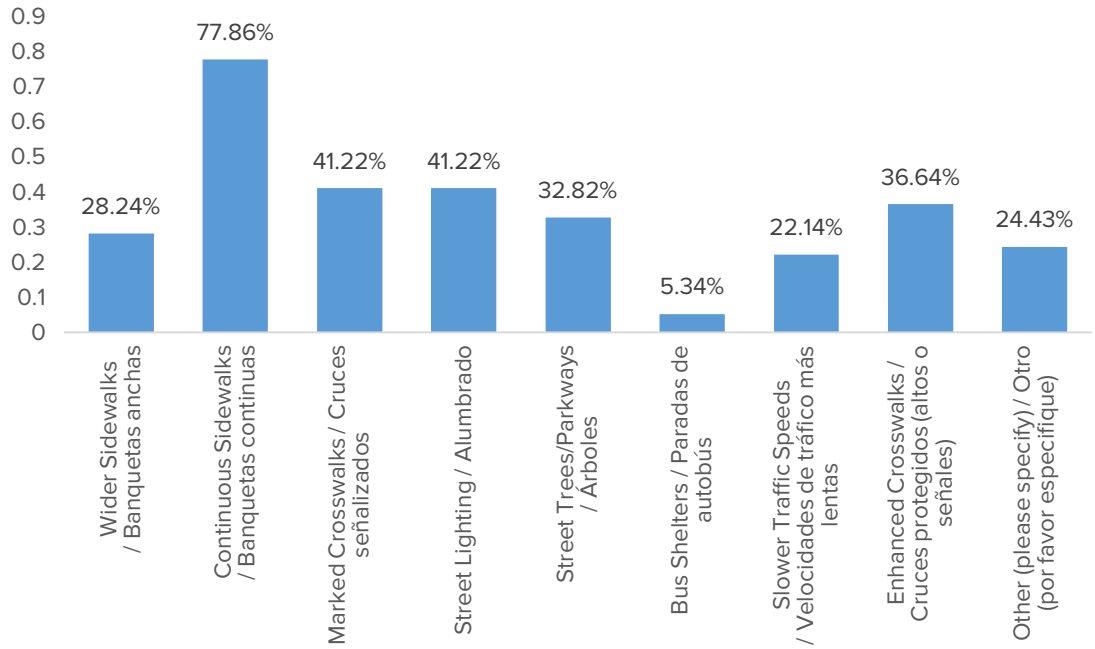
Answer Options	**Response Percent**	**Response Count**
Daily / Diario	3.8%	5
3-4 days per week / 3-4 días a la semana	9.1%	12
1-2 days per week / 1-2 días a la semana	18.9%	25
A few times a year / Pocas veces al año	35.6%	47
Never / Nunca	32.6%	43
answered question		**132**
skipped question		**7**



Question 10

What would make walking better in Paso Robles? (check all that apply) / ¿Qué haría que caminar fuera mejor en Paso Robles? (Seleccione todas las opciones que apliquen)

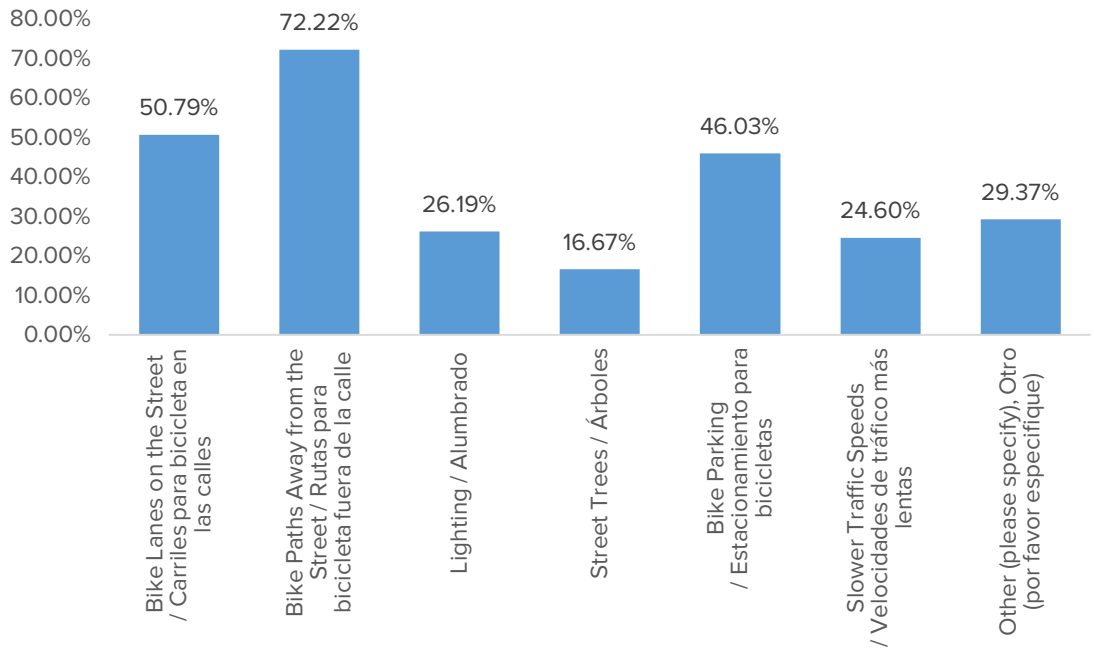
Answer Options	Response Percent	Response Count
Wider Sidewalks / Banquetas anchas	28.2%	37
Continuous Sidewalks / Banquetas continuas	77.9%	102
Marked Crosswalks / Cruces señalizados	41.2%	54
Street Lighting / Alumbrado	41.2%	54
Street Trees/Parkways / Árboles	32.8%	43
Bus Shelters / Paradas de autobús	5.3%	7
Slower Traffic Speeds / Velocidades de tráfico más lentas	22.1%	29
Enhanced Crosswalks / Cruces protegidos (altos o señales)	36.6%	48
Other (please specify) / Otro (por favor especifique)	24.4%	32
	answered question	**131**
	skipped question	**8**



Question 11

What would make bicycling in Paso Robles better? (check all that apply) / ¿Qué haría que andar en bicicleta fuera mejor en Paso Robles? (Seleccione todas las opciones que apliquen)

Answer Options	Response Percent	Response Count
Bike Lanes on the Street / Carriles para bicicleta en las calles	50.8%	64
Bike Paths Away from the Street / Rutas para bicicleta fuera de la calle	72.2%	91
Lighting / Alumbrado	26.2%	33
Street Trees / Árboles	16.7%	21
Bike Parking / Estacionamiento para bicicletas	46.0%	58
Slower Traffic Speeds / Velocidades de tráfico más lentas	24.6%	31
Other (please specify), Otro (por favor especifique)	29.4%	37
	answered question	**126**
	skipped question	**13**



Question 12

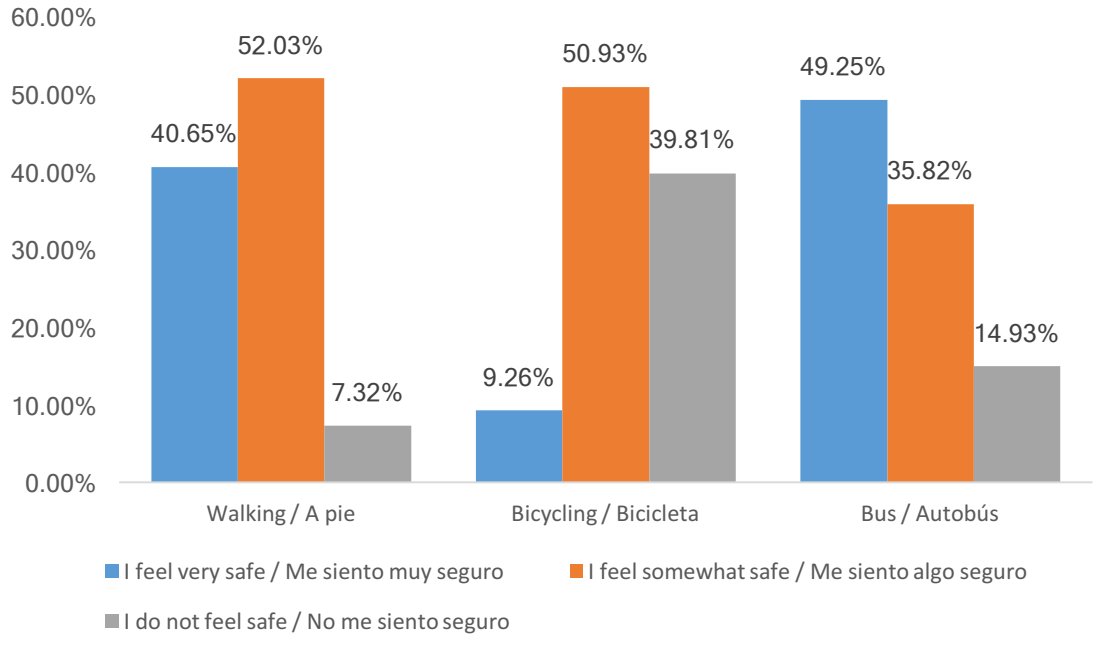
How safe do you feel when using the following types of transportation? / ¿Qué tan seguro se siente usando los siguientes modos de transporte?

How safe do you feel? / ¿Qué tan seguro se siente?

Answer Options	I feel very safe / Me siento muy seguro	I feel somewhat safe / Me siento algo seguro	I do not feel safe / No me siento seguro	Response Count
Walking / A pie	50	64	9	123
Bicycling / Bicicleta	10	55	43	108
Bus / Autobús	33	24	10	67

Question Totals

answered question	**124**
skipped question	**15**



Question 13

If you do not feel safe or comfortable, please explain why. / Si no se siente cómodo o seguro, por favor explica por qué.

Answer Options	**Response Count**
	81
answered question	**81**
skipped question	**58**

The following comments have not been edited for grammar or punctuation. They have been included as received through the online survey.

- Lack of continuous sidewalks meaning walking in the street
- Aside from a few paths that is clearly marked and well lit (example: Charlais Rd). Most of paths are still not clearly marked or has designated a bike path. Motorist are still largely unaware or has little knowledge in sharing the road (not sure how to combat this other then hold work shops or provide education through social media platforms for local TV)
- drivers do9n't pay attention to pedestrians
- Street and shoulder conditions are very poor. Lots of potholes. Streets not swept and lots of gravel/debris in shoulders and bike lanes. Not enough room for bikes.
- High traffic speeds and rough riding surfaces in bike lanes
- High traffic speeds and rough riding surfaces
- Cars tend to drift into bike lanes as I'm riding.
- I have been yield many times by drivers when biking. It seems that drivers would not want bikers on the road
- Dangerous
- There are not enough practices used for ped/bikers visible.
- I just don't like the bike path combined with the street. Driver's don't pay attention.
- Lack of bicycle lanes, driver distraction
- Poor driving habits of motorists
- Vehicle traffic is too dangerous, aggressive and close
- Some cars do not give 3 ft. clearance; there are lots of speeders
- I do not use the bus.
- Bike paths are too close to street traffic.
- High traffic speeds, narrow roads, no bike Lanes on critical streets.
- The Niblick Bridge and past the Albertsons and Walmart are tricky due to the traffic patterns and high speed of cars
- Because of the lack of clearly marked bike lanes or separate paths riding a buike for recreation or transportation in Paso isn't always the safest.
- Some Paso Robles streets are to narrow to safely navigate on a bicycle.
- lack of sidewalks or having to cross busy roads to access a sidewalk since there isn't one on Niblick on both sides from Ramboulette to Creston
- The walk by centenial used to be my favorite, but now there seems to be a high amount of gang activity. It's also looking worn down. Same with the walk form navajo to nickerson. Lots of kids smoking in the buses along with homeless.
- I use Niblick and creston for jogging and riding to and from the park. High speeds of cars and telephone poles and mail boxes cemented in the sidewalk make it challenging to navigate safely.
- bike lanes too narrow

- There are a lot of people with mental health disabilities that make riding the bus unenjoyable. Too many transients, injured, sick and homeless use busses
- fast cars, roads with pot holes, not always good lighting, pavement desert
- Many of the highways coming into and out of town have narrow shoulders. There is no dedicated bike path to get to Atascadero without getting on the freeway or going way off route. There needs to be more connectivity between the many disparate Class III bike trails scattered throughout the city. Thank you for caring about bicycles!
- Some walking trails are isolated and known areas for homeless people.
- I would gladly bike across town to get downtown from the East side if there was safe routes all the way. I feel very uncomfortable biking through the Niblick/Walmart area. Creston Road feels very unsafe. I would love to bike to Barney Schwartz but Union Road is scary. I love the path along River Road but then I get to Creston and the rest of the way downtown does not feel safe with the heavy traffic load on Creston/13th Street. I have always felt that biking on the sidewalk is wrong but I end up doing it on Creston/13th and Niblick (Walmart area and the bridge) because the street alternative is scary. I would bike more for recreation but there are not connected routes to go very far. I'd love to see looped routes....like Larry Moore path to a safe Creston Road path to Golden Hill to Barney Schwartz and loop back somehow. Let's connect some of the great paths we already have.
- Not enough bike lanes and poor road conditions.
- Live near Centennial Park, lots of loitering, as a female it makes me nervous
- There are not enough safe bike lanes and paths
- No sidewalks where I walk - Walnut Drive
- I don't feel safe right next to vehicles. On a sidewalk there is a buffer.
- Clientele and routes
- The paths in the riverbed are great, but something needs to be done with homeless. Also it needs to be mowed.
- Poor cycling infrastructure + lack of motorist understanding of the law (yes, some bicyclists don't understand the law, but I don't feel threatened by a bicycle as I do a motorized vehicle.
- traffic too fast, bicyclists on wrong side of road
- Bike lanes are not contiguous everywhere and those that exist are littered with gravel and debris. Cars drive too close or invade bike lanes.
- drivers of motor vehicles do not pay attention and drive unsafely. I would love to bike more and have my family bike more, but I hear about deaths each year in the county and it is frightening
- drivers of motor vehicles do not pay attention and drive unsafely. I would love to bike more and have my family bike more, but I hear about deaths each year in the county and it is frightening
- Going from our house on the westside to the Salinas River Trail gets dicey at 13th, whether we go Vine, Oak or Riverside.
- not enough in the way of space or availability
- Very little designated bike lane areas within city.
- No security on buses
- You can never feel completely safe when walking, biking or driving.
- Transient population in certain areas of the city
- sidewalks need to be continuous and walking/jogging paths should be well lighted
- Poor lighting, fast drivers, drivers not looking both ways, drivers coming out of narrow alleyways or driveways that don't have a visual of the sidewalk.
- Drivers don't pay attention and act like they own the roads, and there isn't designated lanes for bikes.
- I walk and bike the river trail from near Walmart to the park and downtown. Being down along the river where I see homeless people and dumped shopping carts and trash I do feel uncomfortable.

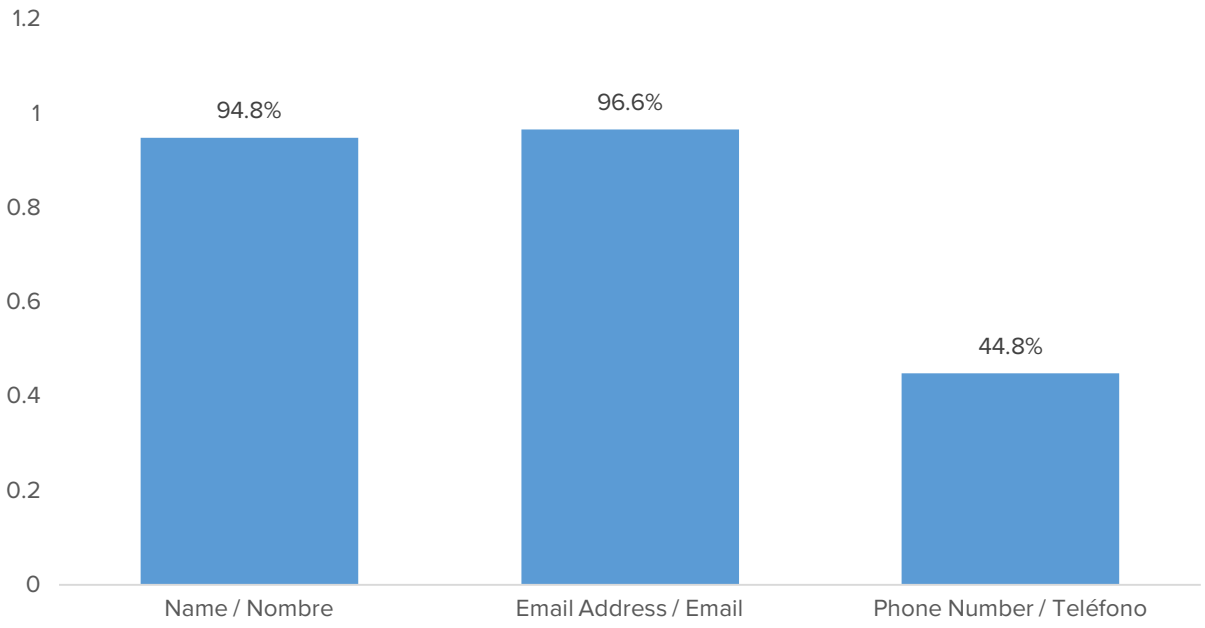
- I dont ride the bus
- I do not feel safe riding my bike next to traffic. I do ride on the bike trail that is off the street or take my bike to the off stree parts of the Bob Jones trail in SLO. I would like to see more trails like that developed locally that connected neighborhoods and downtown like I have seen in other communities.
- When riding bikes there is not always a bike lane to ride seems that drivers don't give you enough room
- Dangerous drivers who speed, pass illegally (River Rd) and run redlights/ ignore pedestrian crossings) - but Mostly the homeless and panhandlers, blocking sidewalks and aggressive panhandling, offensive language or erratic demeanor
- Your river walk is pretty scary. Homeless in the bushes
- too any BAD people out there
- Crossing streets - drivers not stopping
- Afraid of getting hit by a car
- walking-homeless encounters in isolated areas. Biking wth traffic unsafe especially any Fridays
- walking (homeless have taken over isolated spots along river road path. Biking sill too dangerous with traffic
- Many of the roads do not have marked bike paths or are very narrow. Golden hill northbound at the top has a large island and very narrow shoulder leading to cars less than a foot away from me. Niblick road west bound has a section you have to ride in a driving lane due to extremely uneven pavement. Cars park in loading zone/bike lanes on Creston rd in from of Pifer School so I have to ride in the traffic lane. Multiple signals in town wont pick up a bicycle requiring you to run a red light. North/ South bound North River road from Creston Rd onward is narrow and high speed.
- people, infrastructure
- People in cars can hurt you when you are walking or on a bike
- Traffic
- Bike lanes are on streets with fast traffic without barriers between bike and car. Many streets are not 'finished', i.e. union to Barney Schwartz. Drivers are agressive and uneducated about sharing the road. The conditions might be ok for adults, but we are not serving our children.
- the bike lanes are on streets with fast traffic and no barriers between the car traffic and bikes. Also, there seems to be an antagonistic/ uneducated attitude towards cyclists and how to share the road. I biked in downtown SF last summer and felt safer than I do biking in my own neighborhood.
- My street on the west side of Paso does not have sidewalks at all. People don't like to walk in the street next to moving vehicles but that is the only options. If sidewalks were in place I would walk downtown much more and feel much safer
- When a sidewalk just stops and turns to dirt or isn't there to begin with, it is completely unsafe for children and all other pedestrians
- No bike lanes. No shoulders. No green lanes. No signs about bicyclists. Not enough cyclists to make people think about them
- No bike path from our side of town to downtown
- There is not enough space for bikes/few bike lanes.
- There are some designated bike paths on the streets but it is not interconnected. The intersection of Niblick and Nicklaus always seems perilous to cross because some cars don't see the red lights and go through them. I always feel like I am taking a leap of faith when I cross it. The same is true for Niblick and Riveroad intersection. It would help helps if the lights were better coordinated to allow traffic in each way go through more consistently. Cars are always trying to speed through because the lights are not coordinated and people are reluctant to wait.
- Walking, the only time I feel unsafe if on a path with homeless encampments. Biking I feel unsafe on busy roads without a bike lane.

- Situations such as Niblick Bridge are not set up for safe/enjoyable biking and walking
- Lack of bike lanes where I would like to go and separated bike lanes. Traffic is too fast.
- Too scared to ride when no bike lanes or in lanes but roads too narrow and oeople driving too fast....oak hill road especually even with marked lanes.
- There is no culture of biking, so cars don't notice bikes and don't seem to care
- Narrow streets, combined with fast traffic, need well separated bike lanes
- I worry that my kids or I will be hit by a distracted driver, or that a child will become distracted and unintentionally veer into traffic.

Question 14

Want to stay informed? If so, please provide your email address below. If you prefer, you may provide your phone number instead.¿Se quiere mantener informado? De ser así, por favor anote su dirección de correo electrónico a continuación. Si lo prefiere, puede proporcionar su número de teléfono en su lugar.

Answer Options	**Response Percent**	**Response Count**
Name / Nombre	94.8%	55
Email Address / Email	96.6%	56
Phone Number / Teléfono	44.8%	26
answered question		**58**
skipped question		**81**



Appendix C
Pedestrian and Bicycle Project Criteria and Results

The Bicycle-Pedestrian prioritization methodology quantifies raw numbers based typically from non-motorized transportation criteria with weighting based on input from City and consultant staff. The weighted scores account for normalizing between 0 and 100, and weighting of each criterion.

The projects that were prioritized are those that will have a significant impact on the existing bikeway system, such as closing major gaps and extending or developing bike paths, lanes or routes along major transportation corridors.

Sources for the data were collected from City of Paso Robles, San Luis Obispo County, SLOCOG, American Community Survey (ACS), US Census and CA Highway Patrol's Statewide Integrated Traffic Recording System (SWITRs).

- Attractors/Destinations: This criterion tallies the attractors for pedestrian access such as retail, schools, parks, public services, bus and transit stops.
- Completes the Network: Prioritize Projects which close gaps in the network.
- Population and Employment Density: Population and employment density quantifies the number of people living and working within each school zone. The more people live and work in the school zone, the higher the score.
- Under 14 Years Old: Number of elementary and middle school age children.
- Over 65 Years Old: Number of seniors ages 65 and older.
- Bike to Work: Number of people who bike to work.
- Walk to Work: Number of people who walk to work.
- Public Transportation to Work: Number of people who use the bus or trolley to work.
- Households without Vehicles: Number of households that do not own a vehicle and either walk, bike or use transit as their means of transportation.
- Connections to Underserved Communities: Median income was delineated to the following categories and projects that traversed the lowest category received 3 points. Data source: ACS.

  < $33,500 (3 points)

  $33,500 - $35,500 (2 points)

  > $35,500 (1 point)
- Barriers: Quantifies the number of freeway crossings, railroad crossing, and high traffic volume intersections.
- Average Daily Trips: Average volumes per project mile if data was available.
- Bicycle-Pedestrian Collision Rates: Collision per mile, improve safety along high collision routes.
- The Bicycle-Pedestrian Suitability Model acquires the routes total model score and is then divided by the acreage of that project. The average score per square feet is then calculated to normalize the score for all facilities. This allows projects with smaller footprints to have the same scoring parameters as larger projects.
- Economic Efficiency: measure the financial benefits associated with corridor, normalized by the number of anticipated users (in turn a product of the facility type and length), and divided by the rough order construction cost estimates.

Source: NHCRP Report 552: Guidelines for Analysis of Investments in Bicycle Facilities, 2006

Table B-1: Project Prioritization Results

Final Rank	Description	Total Score	Attractors (500-feet)			Wineries & Hotels (500-feet)			Number of Schools (1/4-mile)			Reported Collisions per Mile			Number of Freeway/State Route Crossings (500-feet)			Gap Closure		
			# of Attractors	Normalized Score	Weighted Score	# of Wineries/Hotels	Normalized Score	Weighted Score	# of Schools	Normalized Score	Weighted Score	Collisions/mile	Normalized Score	Weighted Score	# of Crossings	Normalized Score	Weighted Score	Closes Gap?	Normalized Score	Weighted Score
		1.00		1	5%		1.5	8%		1	5%		2	11%		1	5%		1	5%
		Maximum total score is 100																		
1	Niblick Road	67	11	32	2	0	0	0	1	20	1	1	25	3	0	0	0	3	100	11
2	Riverside Avenue	65	19	56	3	1	25	1	0	0	0	4	100	11	1	50	3	2	67	7
3	Appaloosa Drive / Nickerson Drive Neighborhood Connections	60	4	12	1	0	0	0	5	100	5	0	0	0	0	0	0	3	100	11
4	13th Street	59	16	47	3	1	25	1	0	0	0	3	75	8	1	50	3	1	33	4
5	Centenial Trail - Multi-Use Path & Connections	59	2	6	0	0	0	0	2	40	2	1	25	3	0	0	0	3	100	11
6	Multi-Use Path	57	2	6	0	0	0	0	1	20	1	0	0	0	0	0	0	3	100	11
7	"Nico's" Path	56	1	3	0	0	0	0	2	40	2	0	0	0	0	0	0	3	100	11
8	13th Street	54	30	88	5	1	25	1	0	0	0	2	50	5	0	0	0	1	33	4
9	Navajo - Multi-Use Path & Connections	54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	100	11
10	Pat Butler Elementary School Facilities-Nicklaus Street	54	4	12	1	0	0	0	2	40	2	1	25	3	0	0	0	3	100	11
11	24th Street	52	14	41	2	1	25	1	1	20	1	2	50	5	0	0	0	1	33	4
12	Charolais Road	51	0	0	0	0	0	0	1	20	1	1	25	3	0	0	0	3	100	11
13	Vine Street	50	6	18	1	1	25	1	2	40	2	0	0	0	0	0	0	2	67	7
14	Pine Street	50	34	100	5	3	75	4	0	0	0	4	100	11	0	0	0	1	33	4
15	Paso Robles Street	49	0	0	0	0	0	0	0	0	0	0	0	0	1	50	3	1	33	4
16	Railroad Street	49	24	71	4	2	50	3	0	0	0	1	25	3	0	0	0	1	33	4
17	Salinas River Trail	48	5	15	1	0	0	0	0	0	0	1	25	3	0	0	0	3	100	11
18	13th Street Bicycle & Pedestrian Bridge	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	100	11
19	Riverside Avenue	45	9	26	1	4	100	5	2	40	2	2	50	5	0	0	0	1	33	4
20	Navajo - Bicycle & Pedestrian Bridge	44	0	0	0	0	0	0	0	0	0	0	0	0	1	50	3	1	33	4
21	10th Street	44	13	38	2	3	75	4	0	0	0	2	50	5	0	0	0	3	100	11
22	Rambouillet Road	42	2	6	0	0	0	0	1	20	1	0	0	0	0	0	0	3	100	11
23	North River Road	41	0	0	0	0	0	0	0	0	0	0	0	0	2	100	5	1	33	4
24	Larry Moore Park Facilities	40	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	100	11
25	Stoney Creek Drive	40	4	12	1	0	0	0	0	0	0	0	0	0	0	0	0	3	100	11
26	North River Road	38	0	0	0	0	0	0	0	0	0	0	0	0	2	100	5	3	100	11
27	24th Street	38	8	24	1	0	0	0	1	20	1	2	50	5	0	0	0	1	33	4
28	Park Street	38	13	38	2	2	50	3	3	60	3	0	0	0	0	0	0	1	33	4
29	Vine Street	37	4	12	1	0	0	0	3	60	3	0	0	0	0	0	0	1	33	4
30	Bauer-Speck Elementary Loop	35	0	0	0	0	0	0	1	20	1	1	25	3	0	0	0	3	100	11
31	34th Street	33	6	18	1	0	0	0	2	40	2	1	25	3	0	0	0	1	33	4

Safe Routes to School Corridor			Routes of Regional Significance			Public Transportation to Work (500-feet)			Under 14 Years Old (500-feet)			Walk to Work (500-feet)			Bike to Work (500-feet)			Households Without Vehicles (500-feet)			2015 Population Density (Residents per Acre, 500')			2015 Employment Density (Employed per 16+ Residents, 500')			City Priority		
SRTS	Normalized Score	Weighted Score	RRS	Normalized Score	Weighted Score	# Public Trans to Work/Area	Normalized Score	Weighted Score	Age/Area	Normalized Score	Weighted Score	# Walk to Work/Area	Normalized Score	Weighted Score	# Bike to Work/Area	Normalized Score	Weighted Score	# of Vehicles/Area	Normalized Score	Weighted Score	Population/Area	Normalized Score	Weighted Score	Employment/16+	Normalized Score	Weighted Score	City Score	Normalized Score	Weighted Score
	1.5	8%		1.5	8%		0.5	3%		0.5	3%		0.5	3%		0.5	3%		0.5	3%		1.5	8%		1	5%		3	16%
3	100	11	2	100	8	0.08	45	1	1.16	84	2	0.05	78	2	0.01	42	1	0.06	61	2	38	20	2	0.04	34	5	3	100	16
2	67	7	2	100	8	0.02	9	0	1.09	79	2	0.01	17	0	0.00	0	0	0.04	39	1	190	100	8	0.06	54	9	1	33	5
3	100	11	0	0	0	0.02	9	0	1.27	93	3	0.05	84	2	0.03	93	3	0.05	46	1	36	19	2	0.10	100	16	1	33	5
2	67	7	2	100	8	0.02	9	0	1.10	80	2	0.01	17	0	0.00	0	0	0.04	39	1	92	48	4	0.01	12	2	3	100	16
3	100	11	0	0	0	0.00	0	0	1.16	85	2	0.05	76	2	0.03	93	3	0.04	38	1	8	4	0	0.05	49	8	3	100	16
3	100	11	0	0	0	0.18	100	3	1.37	100	3	0.06	100	3	0.00	0	0	0.11	100	3	49	26	2	0.06	53	9	2	67	11
3	100	11	0	0	0	0.18	100	3	1.37	100	3	0.06	100	3	0.00	0	0	0.11	100	3	42	22	2	0.01	12	2	3	100	16
2	67	7	2	100	8	0.02	9	0	1.10	80	2	0.01	17	0	0.00	0	0	0.04	39	1	53	28	2	0.02	20	3	3	100	16
3	100	11	0	0	0	0.00	1	0	1.34	98	3	0.05	83	2	0.03	100	3	0.05	45	1	39	20	2	0.03	30	5	3	100	16
3	100	11	0	0	0	0.18	100	3	1.37	100	3	0.06	100	3	0.00	0	0	0.11	100	3	56	30	2	0.05	45	7	1	33	5
2	67	7	2	100	8	0.02	9	0	1.10	80	2	0.01	17	0	0.00	0	0	0.04	39	1	48	25	2	0.02	18	3	3	100	16
2	67	7	2	100	8	0.09	49	1	0.68	50	1	0.03	49	1	0.00	0	0	0.05	49	1	39	20	2	0.07	64	10	1	33	5
2	67	7	0	0	0	0.02	8	0	1.04	76	2	0.01	17	0	0.00	0	0	0.04	37	1	73	39	3	0.07	64	10	3	100	16
2	67	7	0	0	0	0.02	9	0	1.10	80	2	0.01	17	0	0.00	0	0	0.04	39	1	125	66	5	0.04	36	6	1	33	5
2	67	7	2	100	8	0.02	9	0	1.09	79	2	0.01	17	0	0.00	0	0	0.04	39	1	187	98	8	0.03	30	5	2	67	11
2	67	7	0	0	0	0.02	9	0	1.10	80	2	0.01	17	0	0.00	0	0	0.04	39	1	130	68	6	0.02	20	3	3	100	16
0	0	0	0	0	0	0.05	26	1	1.27	93	3	0.04	66	2	0.01	46	1	0.06	55	1	65	34	3	0.04	37	6	3	100	16
0	0	0	2	100	8	0.01	5	0	0.85	62	2	0.01	24	1	0.01	20	1	0.03	28	1	100	52	4	0.01	7	1	3	100	16
3	100	11	0	0	0	0.02	9	0	1.10	80	2	0.01	17	0	0.00	0	0	0.04	39	1	53	28	2	0.05	45	7	1	33	5
2	67	7	0	0	0	0.01	8	0	1.14	83	2	0.02	27	1	0.00	15	0	0.04	40	1	140	73	6	0.05	53	9	2	67	11
2	67	7	0	0	0	0.02	9	0	1.10	80	2	0.01	17	0	0.00	0	0	0.04	39	1	72	38	3	0.03	25	4	1	33	5
2	67	7	0	0	0	0.16	89	2	1.23	89	2	0.05	89	2	0.00	0	0	0.09	89	2	49	26	2	0.05	50	8	1	33	5
3	100	11	2	100	8	0.00	2	0	0.33	24	1	0.00	4	0	0.00	5	0	0.01	8	0	56	29	2	0.03	33	5	1	33	5
2	67	7	0	0	0	0.16	88	2	1.20	88	2	0.05	88	2	0.00	0	0	0.09	88	2	14	7	1	0.05	52	8	1	33	5
2	67	7	0	0	0	0.16	89	2	1.25	91	2	0.05	88	2	0.00	0	0	0.09	88	2	30	16	1	0.05	46	7	1	33	5
2	67	7	2	100	8	0.00	1	0	0.24	17	0	0.00	2	0	0.00	4	0	0.00	5	0	7	4	0	0.01	13	2	1	33	5
2	67	7	2	100	8	0.01	8	0	0.97	71	2	0.01	17	0	0.00	0	0	0.04	34	1	58	31	2	0.01	12	2	1	33	5
3	100	11	0	0	0	0.02	9	0	1.10	80	2	0.01	17	0	0.00	0	0	0.04	39	1	48	25	2	0.03	33	5	1	33	5
3	100	11	0	0	0	0.02	8	0	1.05	77	2	0.01	17	0	0.00	0	0	0.04	37	1	59	31	3	0.05	45	7	1	33	5
2	67	7	0	0	0	0.01	8	0	1.01	74	2	0.01	17	0	0.00	0	0	0.04	36	1	15	8	1	0.02	23	4	1	33	5
3	100	11	0	0	0	0.02	9	0	1.10	80	2	0.01	17	0	0.00	0	0	0.04	39	1	39	20	2	0.01	13	2	1	33	5

Table B-1: Project Prioritization Results (Cont.)

Final Rank	Description	Total Score	Attractors (500-feet)			Wineries & Hotels (500-feet)			Number of Schools (1/4-mile)			Reported Collisions per Mile			Number of Freeway/State Route Crossings (500-feet)			Gap Closure		
			# of Attractors	Normalized Score	Weighted Score	# of Wineries/Hotels	Normalized Score	Weighted Score	# of Schools	Normalized Score	Weighted Score	Collisions/mile	Normalized Score	Weighted Score	# of Crossings	Normalized Score	Weighted Score	Closes Gap?	Normalized Score	Weighted Score
		1.00		1	5%		1.5	8%		1	5%		2	11%		1	5%		1	5%
		Maximum total score is 100																		
32	Ramada Drive	32	3	9	0	1	25	1	0	0	0	0	0	0	1	50	3	1	33	4
33	28th Street	32	4	12	1	2	50	3	1	20	1	0	0	0	0	0	0	1	33	4
34	24th Street	31	1	3	0	0	0	0	1	20	1	0	0	0	0	0	0	1	33	4
35	Buena Vista Drive	30	0	0	0	2	50	3	0	0	0	0	0	0	1	50	3	1	33	4
36	Commerce Way	30	2	6	0	0	0	0	0	0	0	0	0	0	0	0	0	3	100	11
37	36th Street	30	3	9	0	1	25	1	1	20	1	0	0	0	0	0	0	1	33	4
38	Meadowlark Road	27	0	0	0	0	0	0	1	20	1	1	25	3	0	0	0	1	33	4
39	Beechwood Specific Plan	26	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	100	11
40	Bicycle & Pedestrian Bridge	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	33	4
41	16th Street	24	5	15	1	0	0	0	1	20	1	0	0	0	0	0	0	1	33	4
42	Airport Road	23	0	0	0	3	75	4	0	0	0	0	0	0	0	0	0	1	33	4
43	4th Street	23	7	21	1	0	0	0	0	0	0	0	0	0	0	0	0	3	100	11
44	Golden Hill Road	21	7	21	1	0	0	0	0	0	0	0	0	0	1	50	3	1	33	4
45	Salinas River Trail South	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	33	4
46	Wisteria Lane	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	33	4
47	Buena Vista Drive	17	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	33	4
48	Huerhuero Creek Trail	15	0	0	0	0	0	0	0	0	0	0	0	0	1	50	3	1	33	4
49	Airport Rd, Tower Rd, Jardine Rd, Beacon Rd, Aerotech Center Way	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	33	4
50	Class I Olsen Ranch	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	33	4
51	Fontana and Linne	13	3	9	0	0	0	0	0	0	0	0	0	0	0	0	0	1	33	4
52	Golden Hill Road	11	0	0	0	1	25	1	0	0	0	0	0	0	0	0	0	1	33	4
53	Scott Street	11	2	6	0	0	0	0	0	0	0	0	0	0	0	0	0	1	33	4
54	Golden Hill Road	10	0	0	0	1	25	1	0	0	0	0	0	0	0	0	0	1	33	4
55	Chandler Ranch Specific Plan Area Bike Improvements -Sherwood Road	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	33	4

Safe Routes to School Corridor			Routes of Regional Significance			Public Transportation to Work (500-feet)			Under 14 Years Old (500-feet)			Walk to Work (500-feet)			Bike to Work (500-feet)			Households Without Vehicles (500-feet)			2015 Population Density (Residents per Acre, 500')			2015 Employment Density (Employed per 16+ Residents, 500')			City Priority		
SRTS	Normalized Score	Weighted Score	RRS	Normalized Score	Weighted Score	# Public Trans to Work/Area	Normalized Score	Weighted Score	Age/Area	Normalized Score	Weighted Score	# Walk to Work/Area	Normalized Score	Weighted Score	# Bike to Work/Area	Normalized Score	Weighted Score	# of Vehicles/Area	Normalized Score	Weighted Score	Population/Area	Normalized Score	Weighted Score	Employment/16+	Normalized Score	Weighted Score	City Score	Normalized Score	Weighted Score
	1.5	8%		1.5	8%		0.5	3%		0.5	3%		0.5	3%		0.5	3%		0.5	3%		1.5	8%		1	5%		3	16%
0	0	0	2	100	8	0.00	0	0	0.01	1	0	0.00	0	0	0.00	0	0	0.00	0	0	1	0	0	0.00	0	0	3	100	16
3	100	11	0	0	0	0.02	9	0	1.10	80	2	0.01	17	0	0.00	0	0	0.04	39	1	24	13	1	0.02	21	3	1	33	5
2	67	7	2	100	8	0.01	5	0	0.63	46	1	0.01	17	0	0.00	0	0	0.02	22	1	40	21	2	0.02	15	2	1	33	5
2	67	7	2	100	8	0.00	0	0	0.13	9	0	0.00	0	0	0.00	5	0	0.00	0	0	1	0	0	0.00	2	0	1	33	5
3	100	11	0	0	0	0.02	10	0	0.34	25	1	0.00	0	0	0.00	1	0	0.00	1	0	8	4	0	0.01	13	2	1	33	5
3	100	11	0	0	0	0.02	9	0	1.10	80	2	0.01	17	0	0.00	0	0	0.04	39	1	43	23	2	0.02	17	3	1	33	5
2	67	7	0	0	0	0.05	28	1	0.56	41	1	0.01	19	1	0.00	0	0	0.02	20	1	17	9	1	0.01	13	2	1	33	5
2	67	7	0	0	0	0.02	10	0	0.34	24	1	0.00	0	0	0.00	0	0	0.00	1	0	3	2	0	0.02	15	2	1	33	5
0	0	0	0	0	0	0.04	23	1	0.32	23	1	0.01	23	1	0.00	0	0	0.02	23	1	7	4	0	0.01	5	1	3	100	16
2	67	7	0	0	0	0.02	9	0	1.10	80	2	0.01	17	0	0.00	0	0	0.04	39	1	14	8	1	0.01	13	2	1	33	5
0	0	0	2	100	8	0.00	0	0	0.12	9	0	0.00	0	0	0.00	5	0	0.00	0	0	3	1	0	0.01	10	2	1	33	5
0	0	0	0	0	0	0.01	8	0	0.97	71	2	0.01	17	0	0.00	0	0	0.04	34	1	15	8	1	0.01	12	2	1	33	5
0	0	0	2	100	8	0.00	0	0	0.13	9	0	0.00	0	0	0.00	5	0	0.00	0	0	1	0	0	0.00	2	0	1	33	5
0	0	0	0	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0.00	0	0	0	0	0	0.00	0	0	3	100	16
0	0	0	2	100	8	0.00	0	0	0.13	9	0	0.00	0	0	0.00	5	0	0.00	0	0	2	1	0	0.00	5	1	1	33	5
2	67	7	0	0	0	0.00	0	0	0.13	9	0	0.00	0	0	0.00	5	0	0.00	0	0	1	0	0	0.01	6	1	1	33	5
0	0	0	0	0	0	0.00	0	0	0.13	9	0	0.00	0	0	0.00	5	0	0.00	0	0	3	1	0	0.02	20	3	1	33	5
0	0	0	0	0	0	0.00	0	0	0.09	6	0	0.00	0	0	0.00	3	0	0.00	0	0	2	1	0	0.03	29	5	1	33	5
0	0	0	0	0	0	0.02	10	0	0.35	26	1	0.00	0	0	0.00	0	0	0.00	1	0	8	4	0	0.03	24	4	1	33	5
0	0	0	0	0	0	0.01	6	0	0.25	18	0	0.00	0	0	0.00	2	0	0.00	1	0	14	7	1	0.02	19	3	1	33	5
0	0	0	0	0	0	0.00	0	0	0.13	9	0	0.00	0	0	0.00	5	0	0.00	0	0	3	1	0	0.01	6	1	1	33	5
0	0	0	0	0	0	0.02	11	0	0.37	27	1	0.00	0	0	0.00	0	0	0.00	1	0	2	1	0	0.01	6	1	1	33	5
0	0	0	0	0	0	0.00	0	0	0.13	9	0	0.00	0	0	0.00	5	0	0.00	0	0	3	1	0	0.00	2	0	1	33	5
0	0	0	0	0	0	0.00	2	0	0.17	12	0	0.00	0	0	0.00	4	0	0.00	0	0	8	4	0	0.01	8	1	1	33	5

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Appendix D
Safe Routes to School

The Safe Routes to School (SRTS) program aims to increase the number of children walking and bicycling to school by making it safer for them to do so. The primary goal of the SLO County SRTS program is to educate schools and communities on safety and to encourage students and their families to opt for active transportation choices.

Based on information on risk injury for students who walk and bike, a Safe Routes to School Infrastructure Inventory (SRTSII) was produced by Rideshare, a SLOCOG division. Each school in the area was given a data profile that would allow them to compete for funds towards infrastructure improvements. Rideshare plans to apply for ATP funds to continue to expand the coverage of the SRTSII data collection, as well as to create an overarching Regional SRTS Strategic Plan. This plan includes both non-infrastructure and infrastructure projects in the region in a high-level, strategic document that provides deeper support and clearer standards for the member jurisdictions' Public Works and Planning Departments.

The SRTSII shows the need for more or improved walking and biking amenities at a given school site by prioritizing improvements through a systematic process that weighs various forms of quantitative and qualitative evidence including:

- Vehicle and pedestrian counts
- Transportation Injury Mapping System (TIMS) collision data from 2003 – 2011
- Surveys of the physical infrastructure surrounding a school
- Obesity data
- Speed data
- Assessment of allegorical data from parents and crossing guards at each school site.

For the assessment area, a ¼ mile and ½ mile radius were used based on National SRTS standards and the average layout of streets and sidewalks surrounding school sites in San Luis Obispo County.

A mapping component was also paired with the inventory tool to illustrate bicycle and pedestrian collision points within a ¼ mile and ½ mile radius buffer around each selected school. The maps also indicate signal types, park and recreational facilities, community boundaries, railroad tracks, highways and interstates, geographic barriers, bikeways, and roadways. Existing infrastructure such as roadway signals, informal pathways, school entrance points, and crosswalk signs were also collected and added to the GIS maps.

It was determined that nine public schools in Paso Robles would be inventoried based on infrastructure deficiencies. Priority was given to those with highest infrastructure needs (Tier One). The following table and maps (Figures D-1 through D-9) show the schools in Paso Robles that were selected as part of the SRTS infrastructure inventory.

Table B-1: Selected Schools

Tier 1	Tier 2
Daniel E. Lewis Middle School	Bauer-Speck Elementary School
Georgia Brown Elementary School	Flamson Middle School
Paso Robles High School	Kermit King Elementary School
Winifred Pifer Elementary School	Pat Butler Elementary School
	Virginia Peterson Elementary School

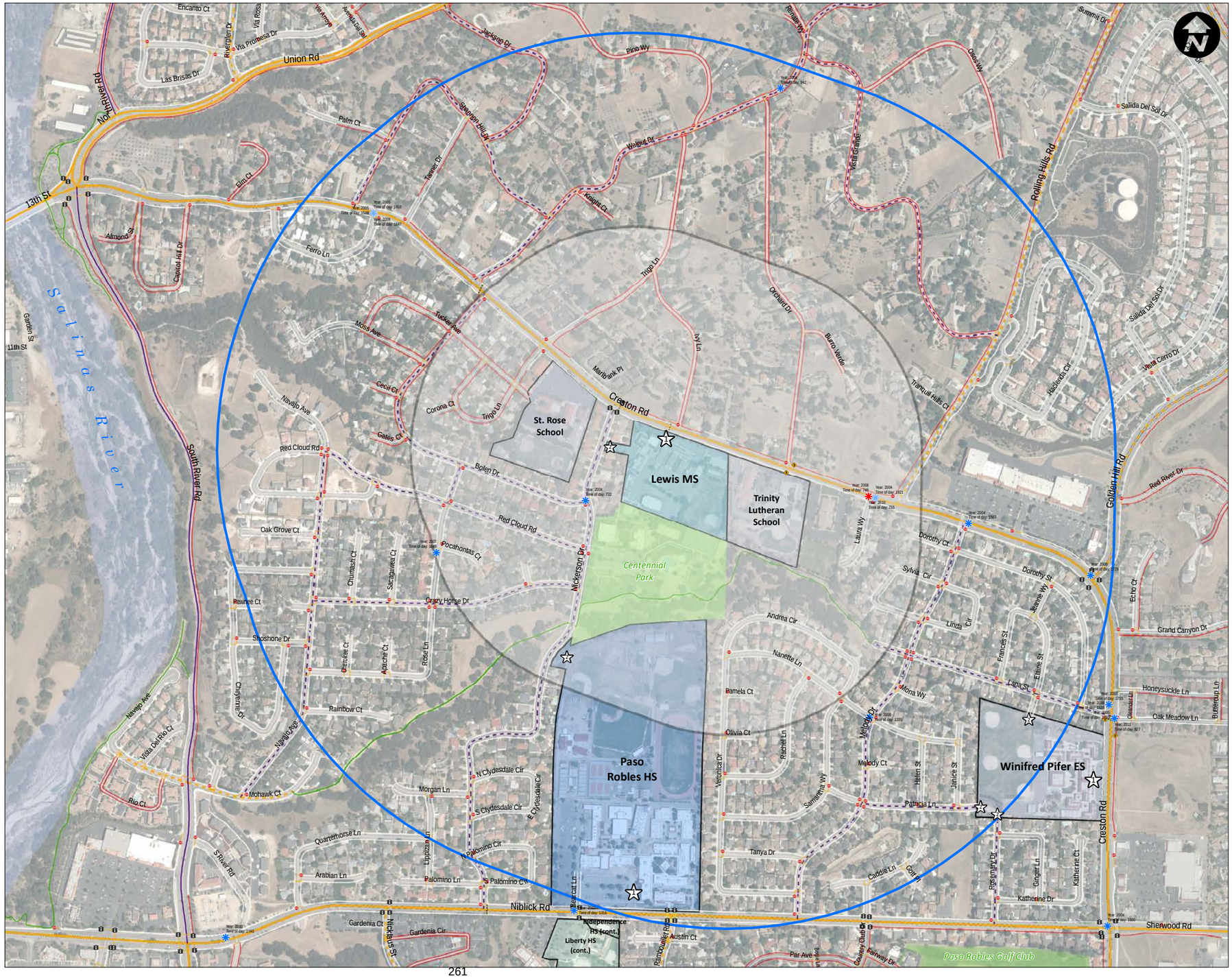
For more information regarding San Luis Obispo County's Safe Routes to School Program, visit: https://rideshare.org/program/safe-routes-to-school/

Safe Routes To School Infrastructure Survey

Half-Mile Survey Area

Daniel E. Lewis Middle School

Paso Robles Joint USD



Legend

Collisions

- Bike collision, daytime
- Bike collision, evening/night
- Ped collision, daytime
- Ped collision, evening/night

Source: Transportation Injury Mapping System (TIMS), Safe Transportation Research and Education Center at UC Berkeley (2003-2011).

Signal Type and Other Signs

- Signal
- Flashing Beacon
- Stop Sign
- Radar Speed Sign

School Entry Points

- Primary Entry Point
- Secondary Entry Point

Pedestrian Network

- Sidewalk
- Standard White Crosswalk
- Ladder White Crosswalk
- Continental White Crosswalk
- Zebra White Crosswalk
- Unmarked Crossing
- No Sidewalk
- Standard Yellow Crosswalk
- Ladder Yellow Crosswalk
- Continental Yellow Crosswalk
- Zebra Yellow Crosswalk
- Bike Path or Informal Path

Schools

- Elementary School
- Junior High School
- High School
- High School (Continuation)

Infrastructure study areas

- Half-mile radius from school
- Quarter-mile radius from school

Park and Recreational Facilities

- Community Park
- Regional Park
- Golf Courses
- Open Space

Community Boundaries

- Incorporated Cities
- Unincorporated Communities

Bikeways

- Class II (existing)
- Class III (existing)
- Bicycle Boulevard (existing)
- Sharrows (existing)
- Recreational Route
- Class II (planned)
- Class III (planned)
- Bicycle Boulevard (planned)
- Sharrows (planned)
- Pacific Coast Bike Route

Roadways

- Freeway
- Expressway
- Highway Ramp
- Major Arterial
- Local Roadways
- Rural Collector

SLOCOG — San Luis Obispo Council of Governments

rideshare — 511

SAFE ROUTES TO SCHOOL

San Luis Obispo Regional Rideshare
San Luis Obispo Council of Governments
1114 Marsh Street
San Luis Obispo, CA 93401
Date created: January 28, 2014
Date revised: March 14, 2014

0 1,000 2,000 Feet

Note: This map is meant to reflect the pedestrian or walking network proximate to schools in the San Luis Obispo region. Presence of sidewalk is meant to reflect existing conditions as of 2011. Actual conditions on the ground may vary from this map.

Map author: San Luis Obispo Council of Governments

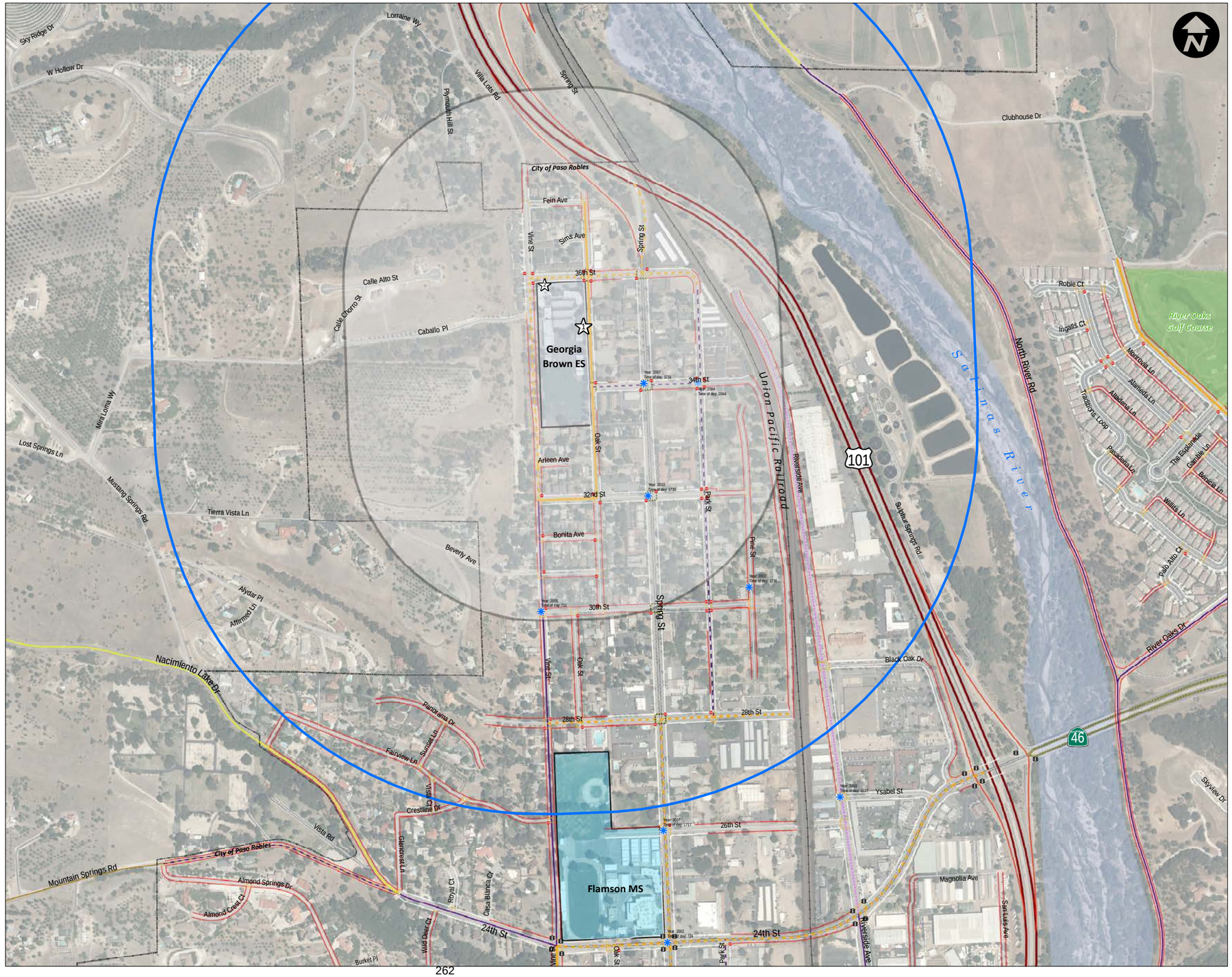
Figure B-1: Daniel E. Lewis Middle School Inventory

Safe Routes To School Infrastructure Survey

Half-Mile Survey Area

Georgia Brown Elementary School

Paso Robles Joint USD



Legend

Collisions
- Bike collision, daytime
- Bike collision, evening/night
- Ped collision, daytime
- Ped collision, evening/night

Source: Transportation Injury Mapping System (TIMS), Safe Transportation Research and Education Center at UC Berkeley (2003-2011).

Signal Type and Other Signs
- Signal
- Flashing Beacon
- Stop Sign
- Radar Speed Sign

School Entry Points
- Primary Entry Point
- Secondary Entry Point

Pedestrian Network
- Sidewalk
- Standard White Crosswalk
- Ladder White Crosswalk
- Continental White Crosswalk
- Zebra White Crosswalk
- Unmarked Crossing
- No Sidewalk
- Standard Yellow Crosswalk
- Ladder Yellow Crosswalk
- Continental Yellow Crosswalk
- Zebra Yellow Crosswalk
- Bike Path or Informal Path

Schools
- Elementary School
- Junior High School
- High School
- High School (Continuation)

Infrastructure study areas
- Half-mile radius from school
- Quarter-mile radius from school

Park and Recreational Facilities
- Community Park
- Regional Park
- Golf Courses
- Open Space

Community Boundaries
- Incorporated Cities
- Unincorporated Communities

Bikeways
- Class II (existing)
- Class III (existing)
- Bicycle Boulevard (existing)
- Sharrows (existing)
- Recreational Route
- Class II (planned)
- Class III (planned)
- Bicycle Boulevard (planned)
- Sharrows (planned)
- Pacific Coast Bike Route

Roadways
- Freeway
- Expressway
- Highway Ramp
- Major Arterial
- Local Roadways
- Rural Collector

SLOCOG San Luis Obispo Council of Governments

rideshare 511

SAFE ROUTES TO SCHOOL

San Luis Obispo Regional Rideshare
San Luis Obispo Council of Governments
1114 Marsh Street
San Luis Obispo, CA 93401
Date created: January 27, 2014

0 1,000 2,000 Feet

Note: This map is meant to reflect the pedestrian or walking network proximate to schools in the San Luis Obispo region. Presence of sidewalk is meant to reflect existing conditions as of 2011. Actual conditions on the ground may vary from this map.

Map author: San Luis Obispo Council of Governments

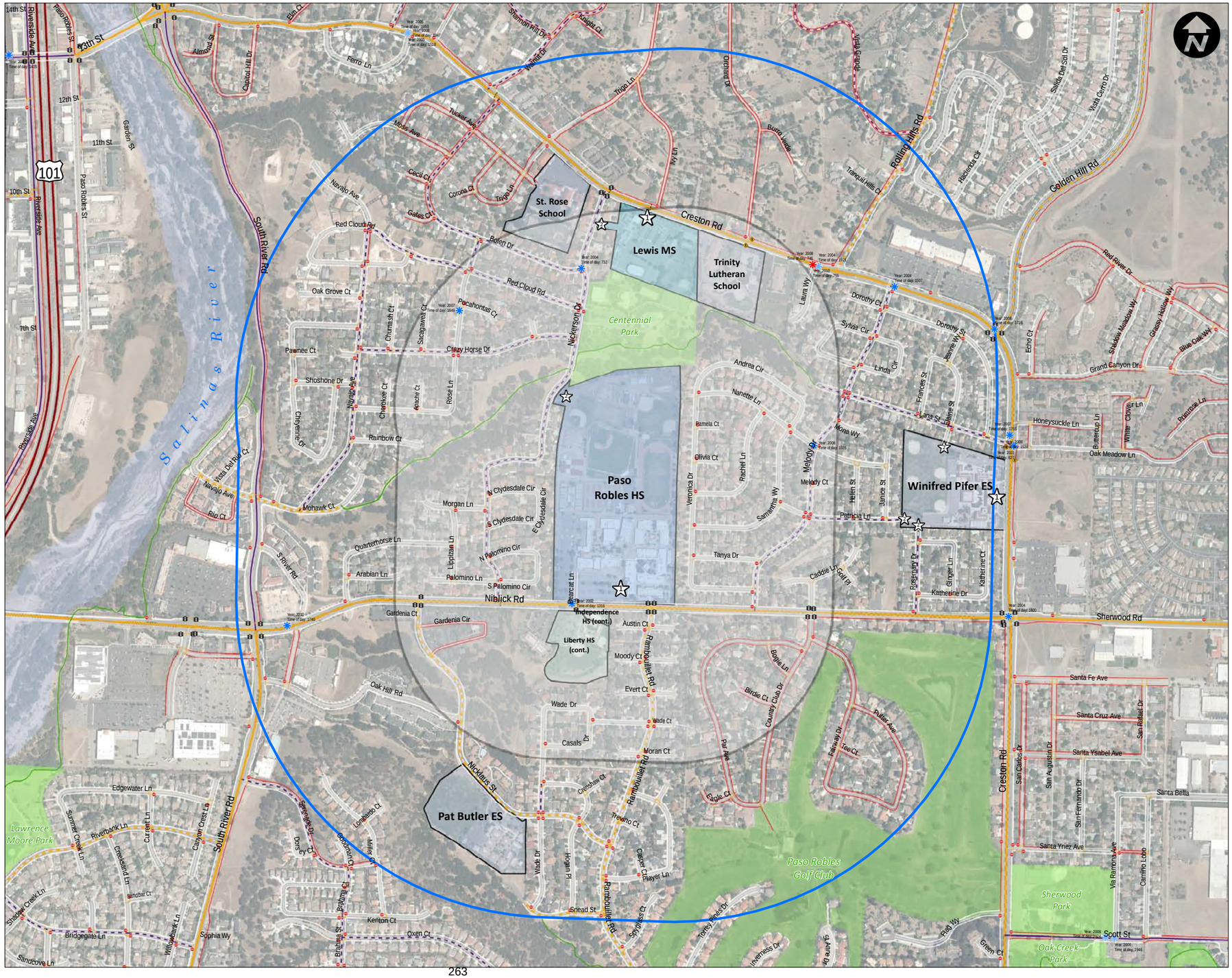
Figure B-2: Georgia Brown Elementary School Inventory

Safe Routes To School Infrastructure Survey

Half-Mile Survey Area

Paso Robles High School

Paso Robles Joint USD



Legend

Collisions

- Bike collision, daytime
- Bike collision, evening/night
- Ped collision, daytime
- Ped collision, evening/night

Source: Transportation Injury Mapping System (TIMS), Safe Transportation Research and Education Center at UC Berkeley (2003-2011).

Signal Type and Other Signs

- Signal
- Flashing Beacon
- Stop Sign
- Radar Speed Sign

School Entry Points

- Primary Entry Point
- Secondary Entry Point

Pedestrian Network

- Sidewalk
- Standard White Crosswalk
- Ladder White Crosswalk
- Continental White Crosswalk
- Zebra White Crosswalk
- Unmarked Crossing
- No Sidewalk
- Standard Yellow Crosswalk
- Ladder Yellow Crosswalk
- Continental Yellow Crosswalk
- Zebra Yellow Crosswalk
- Bike Path or Informal Path

Schools

- Elementary School
- Junior High School
- High School
- High School (Continuation)

Infrastructure study areas

- Half-mile radius from school
- Quarter-mile radius from school

Park and Recreational Facilities

- Community Park
- Regional Park
- Golf Courses
- Open Space

Community Boundaries

- Incorporated Cities
- Unincorporated Communities

Bikeways

- Class II (existing)
- Class III (existing)
- Bicycle Boulevard (existing)
- Sharrows (existing)
- Recreational Route
- Class II (planned)
- Class III (planned)
- Bicycle Boulevard (planned)
- Sharrows (planned)
- Pacific Coast Bike Route

Roadways

- Freeway
- Expressway
- Highway Ramp
- Major Arterial
- Local Roadways
- Rural Collector

SLOCOG San Luis Obispo Council of Governments

rideshare San Luis Obispo Council of Governments

511

SAFE ROUTES TO SCHOOL

San Luis Obispo Regional Rideshare
San Luis Obispo Council of Governments
1114 Marsh Street
San Luis Obispo, CA 93401
Date created: January 28, 2014
Date revised: March 14, 2014

0 1,000 2,000 Feet

Note: This map is meant to reflect the pedestrian or walking network proximate to schools in the San Luis Obispo region. Presence of sidewalk is meant to reflect existing conditions as of 2011. Actual conditions on the ground may vary from this map.

Map author: San Luis Obispo Council of Governments

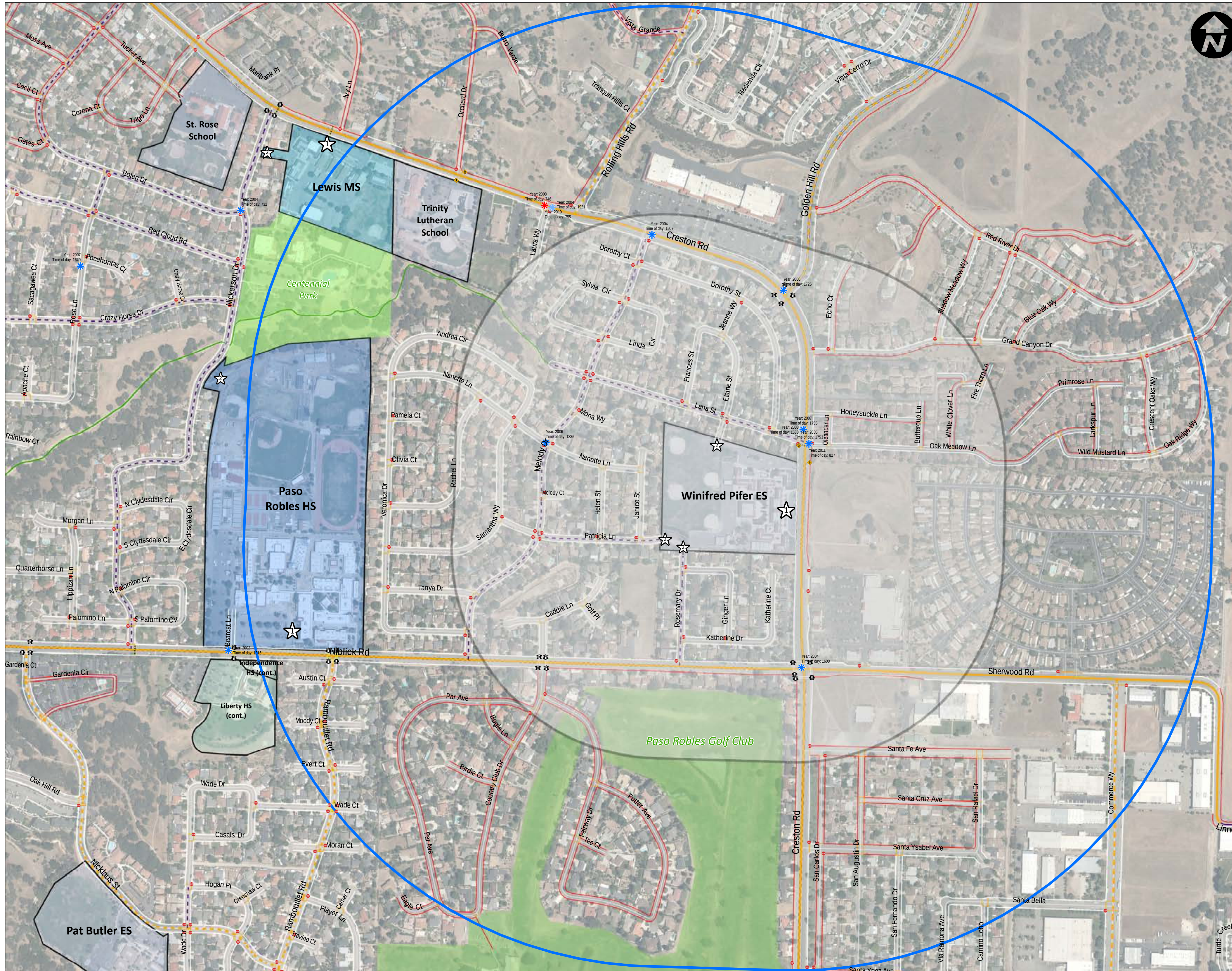
Figure B-3: Paso Robles High School Inventory

Safe Routes To School Infrastructure Survey

Half-Mile Survey Area

Winifred Pifer Elementary School

Paso Robles Joint USD



Legend

Collisions
- Bike collision, daytime
- Ped collision, daytime
- Bike collision, evening/night
- Ped collision, evening/night

Source: Transportation Injury Mapping System (TIMS), Safe Transportation Research and Education Center at UC Berkeley (2003-2011).

Signal Type and Other Signs
- Signal
- Stop Sign
- Flashing Beacon
- Radar Speed Sign

School Entry Points
- Primary Entry Point
- Secondary Entry Point

Pedestrian Network
- Sidewalk
- No Sidewalk
- Standard White Crosswalk
- Standard Yellow Crosswalk
- Ladder White Crosswalk
- Ladder Yellow Crosswalk
- Continental White Crosswalk
- Continental Yellow Crosswalk
- Zebra White Crosswalk
- Zebra Yellow Crosswalk
- Unmarked Crossing
- Bike Path or Informal Path

Schools
- Elementary School
- High School
- Junior High School
- High School (Continuation)

Infrastructure study areas
- Half-mile radius from school
- Quarter-mile radius from school

Park and Recreational Facilities
- Community Park
- Golf Courses
- Regional Park
- Open Space

Community Boundaries
- Incorporated Cities
- Unincorporated Communities

Bikeways
- Class II (existing)
- Class II (planned)
- Class III (existing)
- Class III (planned)
- Bicycle Boulevard (existing)
- Bicycle Boulevard (planned)
- Sharrows (existing)
- Sharrows (planned)
- Recreational Route
- Pacific Coast Bike Route

Roadways
- Freeway
- Major Arterial
- Expressway
- Local Roadways
- Highway Ramp
- Rural Collector

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San Luis Obispo, CA 93401
Date created: January 28, 2014
Date revised: March 14, 2014

0 500 1,000 Feet

Note: This map is meant to reflect the pedestrian or walking network proximate to schools in the San Luis Obispo region. Presence of sidewalk is meant to reflect existing conditions as of 2011. Actual conditions on the ground may vary from this map.

Map author: San Luis Obispo Council of Governments

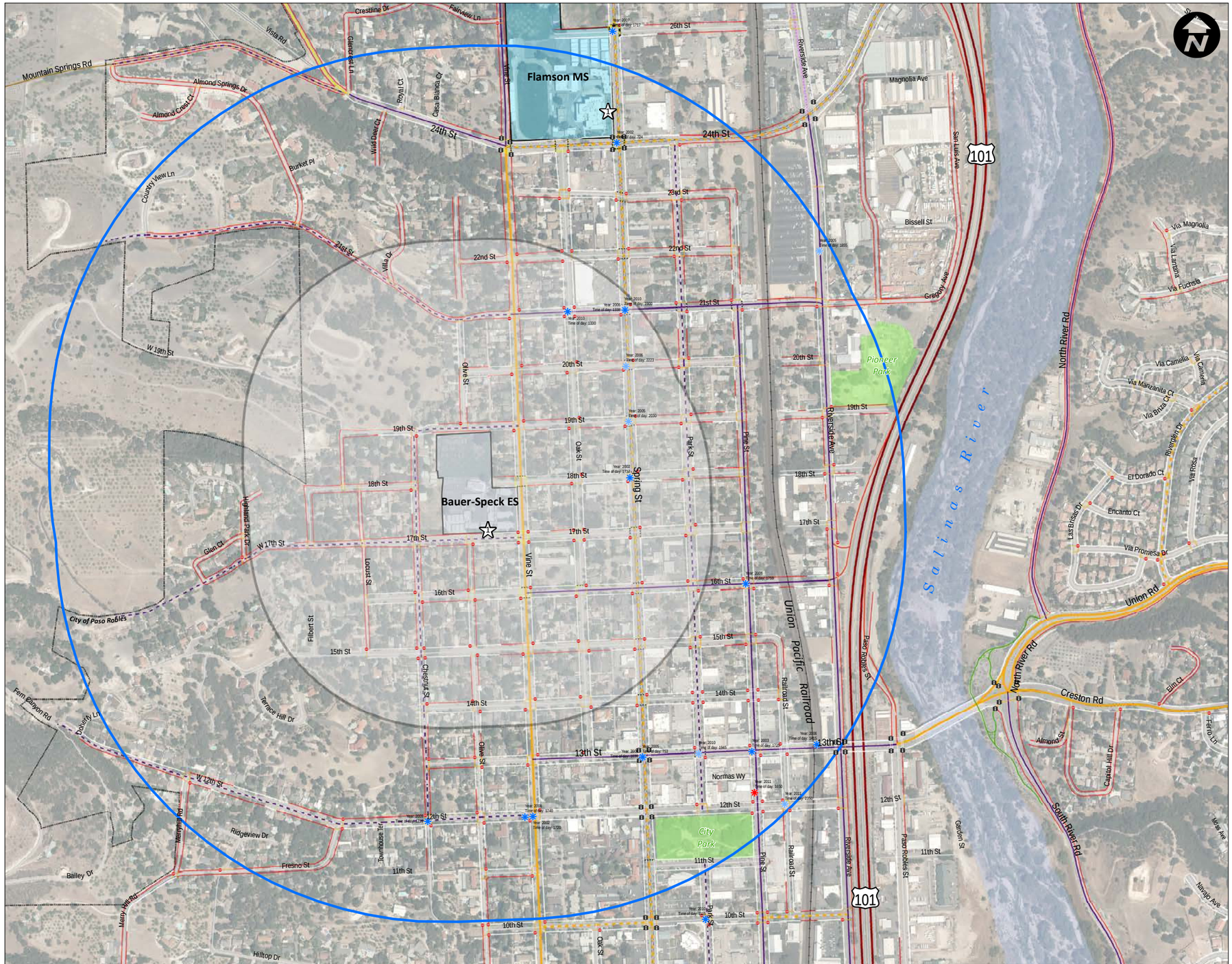
Figure B-4: Winifred Pifer Elementary School Inventory

Safe Routes To School Infrastructure Survey

Half-Mile Survey Area

Bauer-Speck Elementary School

Paso Robles Joint USD



Legend

Collisions

- Bike collision, daytime
- Bike collision, evening/night
- Ped collision, daytime
- Ped collision, evening/night

Source: Transportation Injury Mapping System (TIMS), Safe Transportation Research and Education Center at UC Berkeley (2003-2011).

Signal Type and Other Signs

- Signal
- Flashing Beacon
- Stop Sign
- Radar Speed Sign

School Entry Points

- Primary Entry Point
- Secondary Entry Point

Pedestrian Network

- Sidewalk
- Standard White Crosswalk
- Ladder White Crosswalk
- Continental White Crosswalk
- Zebra White Crosswalk
- Unmarked Crossing
- No Sidewalk
- Standard Yellow Crosswalk
- Ladder Yellow Crosswalk
- Continental Yellow Crosswalk
- Zebra Yellow Crosswalk
- Bike Path or Informal Path

Schools

- Elementary School
- Junior High School
- High School
- High School (Continuation)

Infrastructure study areas

- Half-mile radius from school
- Quarter-mile radius from school

Park and Recreational Facilities

- Community Park
- Regional Park
- Golf Courses
- Open Space

Community Boundaries

- Incorporated Cities
- Unincorporated Communities

Bikeways

- Class II (existing)
- Class III (existing)
- Bicycle Boulevard (existing)
- Sharrows (existing)
- Recreational Route
- Class II (planned)
- Class III (planned)
- Bicycle Boulevard (planned)
- Sharrows (planned)
- Pacific Coast Bike Route

Roadways

- Freeway
- Expressway
- Highway Ramp
- Major Arterial
- Local Roadways
- Rural Collector

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SAFE ROUTES TO SCHOOL

San Luis Obispo Regional Rideshare
San Luis Obispo Council of Governments
1114 Marsh Street
San Luis Obispo, CA 93401

Date created: April 9, 2014
Date revised: June 9, 2014

0 1,000 2,000 Feet

Note: This map is meant to reflect the pedestrian or walking network proximate to schools in the San Luis Obispo region. Presence of sidewalk is meant to reflect existing conditions as of 2011. Actual conditions on the ground may vary from this map.

Map author: San Luis Obispo Council of Governments

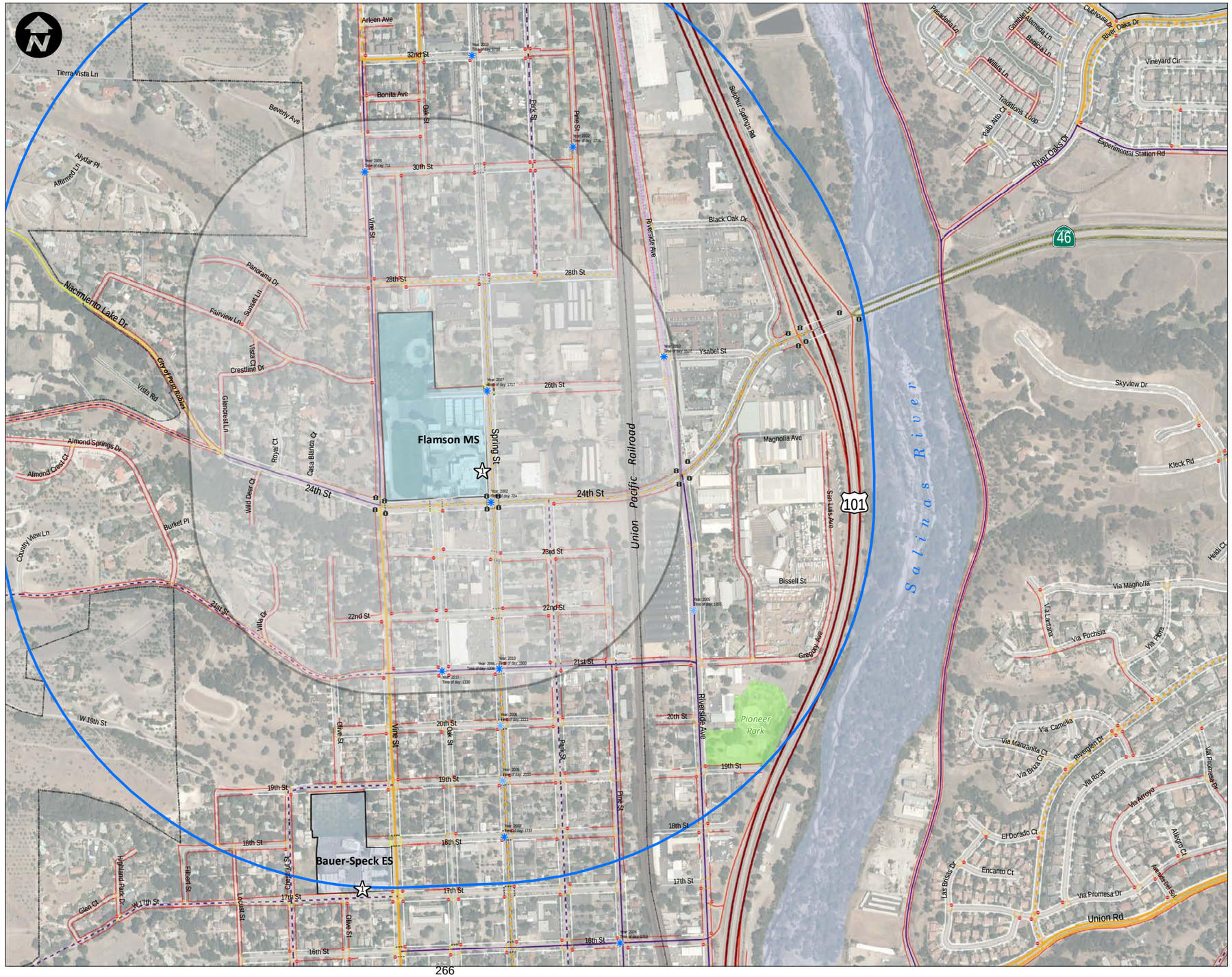
Figure B-5: Bauer-Speck Elementary School Inventory

Safe Routes To School Infrastructure Survey

Half-Mile Survey Area

Flamson Middle School

Paso Robles Joint USD



Legend

Collisions
- Bike collision, daytime
- Bike collision, evening/night
- Ped collision, daytime
- Ped collision, evening/night

Source: Transportation Injury Mapping System (TIMS), Safe Transportation Research and Education Center at UC Berkeley (2003-2011).

Signal Type and Other Signs
- Signal
- Flashing Beacon
- Stop Sign
- Radar Speed Sign

School Entry Points
- Primary Entry Point
- Secondary Entry Point

Pedestrian Network
- Sidewalk
- Standard White Crosswalk
- Ladder White Crosswalk
- Continental White Crosswalk
- Zebra White Crosswalk
- Unmarked Crossing
- No Sidewalk
- Standard Yellow Crosswalk
- Ladder Yellow Crosswalk
- Continental Yellow Crosswalk
- Zebra Yellow Crosswalk
- Bike Path or Informal Path

Schools
- Elementary School
- Junior High School
- High School
- High School (Continuation)

Infrastructure study areas
- Half-mile radius from school
- Quarter-mile radius from school

Park and Recreational Facilities
- Community Park
- Regional Park
- Golf Courses
- Open Space

Community Boundaries
- Incorporated Cities
- Unincorporated Communities

Bikeways
- Class II (existing)
- Class III (existing)
- Bicycle Boulevard (existing)
- Sharrows (existing)
- Recreational Route
- Class II (planned)
- Class III (planned)
- Bicycle Boulevard (planned)
- Sharrows (planned)
- Pacific Coast Bike Route

Roadways
- Freeway
- Expressway
- Highway Ramp
- Major Arterial
- Local Roadways
- Rural Collector

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SAFE ROUTES TO SCHOOL

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San Luis Obispo Council of Governments
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San Luis Obispo, CA 93401
Date created: April 15, 2014
Date revised: June 9, 2014

0 — 1,000 — 2,000 Feet

Note: This map is meant to reflect the pedestrian or walking network proximate to schools in the San Luis Obispo region. Presence of sidewalk is meant to reflect existing conditions as of 2011. Actual conditions on the ground may vary from this map.

Map author: San Luis Obispo Council of Governments

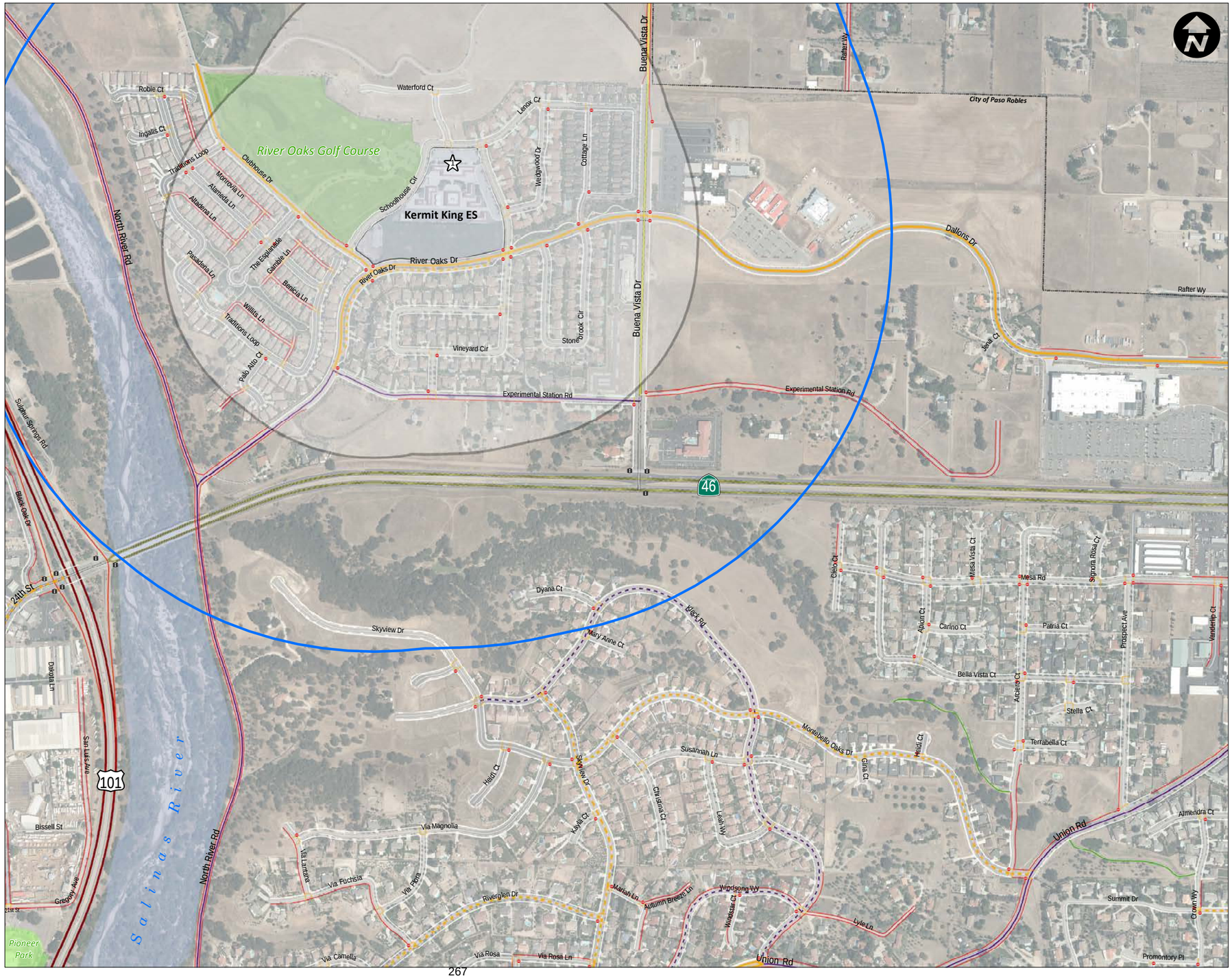
Figure B-6: Flamson Middle School Inventory

Safe Routes To School Infrastructure Survey

Half-Mile Survey Area

Kermit King Elementary School

Paso Robles Joint USD



Legend

Collisions

- Bike collision, daytime
- Bike collision, evening/night
- Ped collision, daytime
- Ped collision, evening/night

Source: Transportation Injury Mapping System (TIMS), Safe Transportation Research and Education Center at UC Berkeley (2003-2011).

Signal Type and Other Signs

- Signal
- Flashing Beacon
- Stop Sign
- Radar Speed Sign

School Entry Points

- Primary Entry Point
- Secondary Entry Point

Pedestrian Network

- Sidewalk
- Standard White Crosswalk
- Ladder White Crosswalk
- Continental White Crosswalk
- Zebra White Crosswalk
- Unmarked Crossing
- No Sidewalk
- Standard Yellow Crosswalk
- Ladder Yellow Crosswalk
- Continental Yellow Crosswalk
- Zebra Yellow Crosswalk
- Bike Path or Informal Path

Schools

- Elementary School
- Junior High School
- High School
- High School (Continuation)

Infrastructure study areas

- Half-mile radius from school
- Quarter-mile radius from school

Park and Recreational Facilities

- Community Park
- Regional Park
- Golf Courses
- Open Space

Community Boundaries

- Incorporated Cities
- Unincorporated Communities

Bikeways

- Class II (existing)
- Class III (existing)
- Bicycle Boulevard (existing)
- Sharrows (existing)
- Recreational Route
- Class II (planned)
- Class III (planned)
- Bicycle Boulevard (planned)
- Sharrows (planned)
- Pacific Coast Bike Route

Roadways

- Freeway
- Expressway
- Highway Ramp
- Major Arterial
- Local Roadways
- Rural Collector

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SAFE ROUTES TO SCHOOL

San Luis Obispo Regional Rideshare
San Luis Obispo Council of Governments
1114 Marsh Street
San Luis Obispo, CA 93401
Date created: April 17, 2014
Date revised: June 9, 2014

0 1,000 2,000 Feet

Note: This map is meant to reflect the pedestrian or walking network proximate to schools in the San Luis Obispo region. Presence of sidewalk is meant to reflect existing conditions as of 2011. Actual conditions on the ground may vary from this map.

Map author: San Luis Obispo Council of Governments

Figure B-7: Kermit King Elementary School Inventory

Safe Routes To School Infrastructure Survey

Pat Butler Elementary School

Paso Robles Joint USD

Half-Mile Survey Area

Legend

Collisions

- Bike collision, daytime
- Bike collision, evening/night
- Ped collision, daytime
- Ped collision, evening/night

Source: Transportation Injury Mapping System (TIMS), Safe Transportation Research and Education Center at UC Berkeley (2003-2011).

Signal Type and Other Signs

- Signal
- Flashing Beacon
- Stop Sign
- Radar Speed Sign

School Entry Points

- Primary Entry Point
- Secondary Entry Point

Pedestrian Network

- Sidewalk
- Standard White Crosswalk
- Ladder White Crosswalk
- Continental White Crosswalk
- Zebra White Crosswalk
- Unmarked Crossing
- No Sidewalk
- Standard Yellow Crosswalk
- Ladder Yellow Crosswalk
- Continental Yellow Crosswalk
- Zebra Yellow Crosswalk
- Bike Path or Informal Path

Schools

- Elementary School
- Junior High School
- High School
- High School (Continuation)

Infrastructure study areas

- Half-mile radius from school
- Quarter-mile radius from school

Park and Recreational Facilities

- Community Park
- Regional Park
- Golf Courses
- Open Space

Community Boundaries

- Incorporated Cities
- Unincorporated Communities

Bikeways

- Class II (existing)
- Class III (existing)
- Bicycle Boulevard (existing)
- Sharrows (existing)
- Recreational Route
- Class II (planned)
- Class III (planned)
- Bicycle Boulevard (planned)
- Sharrows (planned)
- Pacific Coast Bike Route

Roadways

- Freeway
- Expressway
- Highway Ramp
- Major Arterial
- Local Roadways
- Rural Collector

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SAFE ROUTES to SCHOOL

San Luis Obispo Regional Rideshare
San Luis Obispo Council of Governments
1114 Marsh Street
San Luis Obispo, CA 93401
Date created: April 17, 2014
Date revised: June 9, 2014

0 1,000 2,000 Feet

Note: This map is meant to reflect the pedestrian or walking network proximate to schools in the San Luis Obispo region. Presence of sidewalk is meant to reflect existing conditions as of 2011. Actual conditions on the ground may vary from this map.

Map author: San Luis Obispo Council of Governments

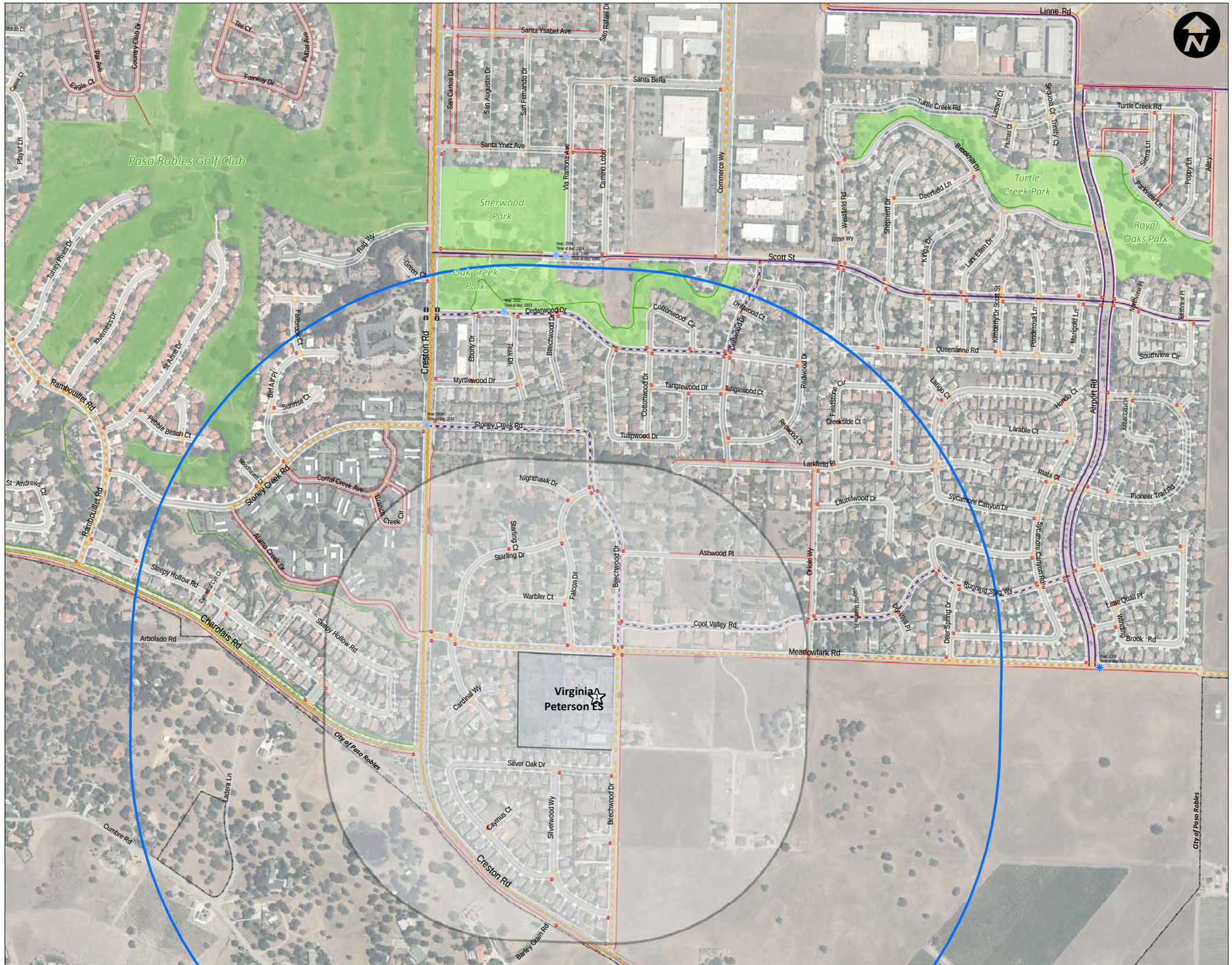
Figure B-8: Pat Butler Elementary School Inventory

Safe Routes To School Infrastructure Survey

Half-Mile Survey Area

Virginia Peterson Elementary School

Paso Robles Joint USD



Legend

Collisions

- Bike collision, daytime
- Bike collision, evening/night
- Ped collision, daytime
- Ped collision, evening/night

Source: Transportation Injury Mapping System (TIMS), Safe Transportation Research and Education Center at UC Berkeley (2003-2011).

Signal Type and Other Signs

- Signal
- Flashing Beacon
- Stop Sign
- Radar Speed Sign

School Entry Points

- Primary Entry Point
- Secondary Entry Point

Pedestrian Network

- Sidewalk
- Standard White Crosswalk
- Ladder White Crosswalk
- Continental White Crosswalk
- Zebra White Crosswalk
- Unmarked Crossing
- No Sidewalk
- Standard Yellow Crosswalk
- Ladder Yellow Crosswalk
- Continental Yellow Crosswalk
- Zebra Yellow Crosswalk
- Bike Path or Informal Path

Schools

- Elementary School
- Junior High School
- High School
- High School (Continuation)

Infrastructure study areas

- Half-mile radius from school
- Quarter-mile radius from school

Park and Recreational Facilities

- Community Park
- Regional Park
- Golf Courses
- Open Space

Community Boundaries

- Incorporated Cities
- Unincorporated Communities

Bikeways

- Class II (existing)
- Class III (existing)
- Bicycle Boulevard (existing)
- Sharrows (existing)
- Recreational Route
- Class II (planned)
- Class III (planned)
- Bicycle Boulevard (planned)
- Sharrows (planned)
- Pacific Coast Bike Route

Roadways

- Freeway
- Expressway
- Highway Ramp
- Major Arterial
- Local Roadways
- Rural Collector

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SAFE ROUTES TO SCHOOL

San Luis Obispo Regional Rideshare
San Luis Obispo Council of Governments
1114 Marsh Street
San Luis Obispo, CA 93401
Date created: April 17, 2014
Date revised: June 9, 2014

0 1,000 2,000 Feet

Note: This map is meant to reflect the pedestrian or walking network proximate to schools in the San Luis Obispo region. Presence of sidewalk is meant to reflect existing conditions as of 2011. Actual conditions on the ground may vary from this map.

Map author: San Luis Obispo Council of Governments

Figure B-9: Virgina Paterson Elementary School Inventory

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Appendix E
Cost Estimates

To be included in final plan.

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Agenda Item 5

ATTACHMENT 2

THE TRIBUNE
Newspaper of the Central Coast

3825 South Higuera • Post Office Box 112 • San Luis Obispo, California 93406-0112 • (805) 781-7800

In The Superior Court of The State of California
In and for the County of San Luis Obispo

AD #3411838
CITY OF PASO ROBLES

STATE OF CALIFORNIA
ss.
County of San Luis Obispo

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen and not interested in the above entitled matter; I am now, and at all times embraced in the publication herein mentioned was, the principal clerk of the printers and publishers of THE TRIBUNE, a newspaper of general Circulation, printed and published daily at the City of San Luis Obispo in the above named county and state; that notice at which the annexed clippings is a true copy, was published in the above-named newspaper and not in any supplement thereof – on the following dates to wit;; DECEMBER 1, 2017 that said newspaper was duly and regularly ascertained and established a newspaper of general circulation by Decree entered in the Superior Court of San Luis Obispo County, State of California, on June 9, 1952, Case #19139 under the Government Code of the State of California.

I certify (or declare) under the penalty of perjury that the foregoing is true and correct.

Jane E. Durand
(Signature of Principal Clerk)
DATE: DECEMBER 1, 2017
AD COST: $185.13

NOTICE OF PUBLIC HEARING

NOTICE IS HEREBY GIVEN that the Planning Commission will hold a Public Hearing to consider the following project:

APPLICATION: City of Paso Robles Bicycle and Pedestrian Master Plan Update

APPLICANT: City Initiated

LOCATION: Citywide

ENVIRONMENTAL DETERMINATION: This application is Exempt from CEQA as a conceptual planning document.

HEARING: The Planning Commission will hold a Public Hearing on Tuesday, December 12, 2017, at 6:30 p.m. at the Library Conference Center, 1000 Spring Street, Paso Robles, California.

Questions about this application may be directed to the Community Development Department at (805) 237-3970 or via email at planning@prcity.com. Comments on the proposed application may be mailed to the Community Development Department, or emailed to planning@prcity.com provided that such comments are received prior to the time of the hearings.

If you challenge the application in court, you may be limited to raising only those issues you or someone else raised at the public hearings described in this notice, or in written correspondence delivered to the Planning Commission or City Council at, or prior to, the public hearings.

Copies of the staff report pertaining to this project will be available for review at the Community Development Department on the Thursday preceding each hearing (copies are available for purchase for the cost of reproduction). If you have any questions, please contact the Community Development Department at (805) 237-3970.

Susan DeCarli, City Planner
December 1, 2017 3411838